COMMERCE AMERICA
FORMERLY COMMERCE TODAY

U.S. Department of Commerce / January 19, 1976

U.S. INDUSTRIAL OUTLOOK 1976

Newsmemo

Predictions that North America is heading into a period of harsher winters are being challenged by Commerce Department scientists. Satellite monitoring of snow cover since 1966 over the Northern Hemisphere has led two officials of the National Oceanic and Atmospheric Administration to question earlier scientific evidence of a cooling trend. They recognize that snow cover is but one of the many variables that shape climatic conditions. But their guarded conclusion is that "the fact that no significant deteriorating trend is discernible should perhaps be encouraging to energy conservationists."

"In consideration of the provisions and stipulations herein or added hereto and of the premium above specified..." Some 230 words later this sentence finally ends. It is the preamble to a homeowners insurance policy that up to now has baffled many an American householder. An effort to change this situation is behind a newly-simplified policy that is being tested in Illinois, Ohio, Nevada, Vermont, Colorado and Georgia by 500 affiliated companies of the Insurance Services Office. A participant, James S. Kemper, Jr., President of the Kemper Insurance Companies, has commented: "A close reading of my homeowners policy raised coverage questions in my mind which I couldn't unravel no matter how carefully I read my policy...That really brought the need for simplified policies home to me."

Success of the American Bicentennial will be judged by the number of participants, not spectators. With that oft-stated theme once more repeated, the American Revolution Bicentennial Administration reports the number of scheduled projects or events now at over 27,000. About 8,000 communities that contain about three-quarters of the U.S. population have been officially recognized for their Bicentennial plans. The Administration has set a Jan. 31 cutoff date for license applications to manufacture ARBA-approved Bicentennial items.

At least one U.S. enterprise is skipping the Bicentennial past to venture into the metric future. Having tested metric bottles with about 24 million consumers in 1975, the Seven-Up Co. is adding a new two-liter size in more test markets this year. The company's announcement explained: "Bicentennial considerations aside, 7-Up is being positioned as un-nostalgic, i.e., as 'the soft drink of tomorrow in the package of the future.'" Conversion started last April with a "Follow the Liter!" campaign in Minneapolis-St. Paul and spread to 14 states. Individual bottlers can make the change to metric-size packaging as soon as they deem it expedient.

Energy R & D is firmly established as a major area on the industrial-scientific scene. So concludes the annual assessment of U.S. research and development activities by the Battelle Columbus Laboratories. Within the energy field the fastest program expansions now are directed toward reducing national dependence on fossil fuels, especially on gas and oil. Lately, however, a trend is seen as emerging in which non-fossil and non-nuclear energy sources—especially geothermal, solar, and wind—reported as gaining in relative emphasis.

Government continues to be the major source of research funds, but industry does the work. Battelle expects industry to perform 69.8 percent of all 1976 research, compared to 14.5 percent for the Federal Government, 11.9 percent for academic institutions, and 3.9 percent for non-profit organizations. As a performer of research, industry has increased its total by 30 percent from 1971 to 1975, as opposed to 25 percent increases in the Federal Government and academic sectors and 20 percent in the category of non-profit organizations.

Leasing of equipment by community hospitals is on the rise. Restricted budgets and declining donations and bond issues have accelerated this trend, according to a survey made by Citicorp Leasing, a subsidiary of First National City Bank of New York. More than four-fifths of the 447 respondents said they had obtained equipment under leasing arrangements. More than two-thirds of these have entered into new lease financing within the past three years. Items on lease include lab or diagnostic equipment, data processing systems for record keeping, nuclear medicine equipment, health testing apparatus and patient monitoring equipment.

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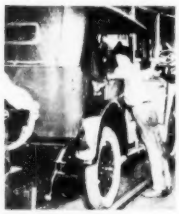

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COVER: General, though unspectacular, recovery of the nation's economy is forecast by the Commerce Department's annual Industrial Outlook for 1976 with emphasis on the fact that energy is a permanent problem of life for all U.S. industry in the years ahead. Story beginning on page 4 provides details of the forecast.

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ECONOMIC HIGHLIGHTS

Homebuilding: Responding to Improved Credit Conditions

Economic Highlights is prepared by James L. Pate, Assistant Secretary of Commerce for Economic Affairs.

Housing starts have recovered substantially since the first quarter of last year, but they are still well below the pace needed to meet the nation's estimated housing needs for the remainder of the decade. The annual rate of starts rose from a low of about one million in the first quarter of 1975 to 1.4 million in October and November. The Department of Housing and Urban Development (HUD) has estimated that some two million conventional housing starts will be needed annually for the remainder of this decade to accommodate new household formations and make up for the attrition of existing units. Thus the rate of starts has recovered roughly two-fifths of the shortfall from this level.

In percentage terms, apartment units have recovered about as much as single-family starts. The rise in single-family starts was 42 percent from the first quarter to the October-November average while apartment starts in buildings with five or more units increased 33 percent from the first quarter and 56 percent from their low in the second quarter of the year.

However, the recovery of starts in apartment buildings began from a far lower point than single-family starts in relation to the pre-recession level. Culminating a rise which began in the latter 1950s, the share of apartments in larger buildings stabilized at about 39 percent of total starts from 1969 through 1973. After that, however, their proportion fell sharply to only 16 percent of total starts in the second quarter of 1975. By October and November, their share had recovered to 19 percent.

The potential for further recovery appears to be mainly in multi-family starts. This is suggested by the following illustration: If total housing starts were to recover to a two million rate they would be 584,000 above the October-November average. If starts in larger apartment buildings were to return to their pre-recession proportion of 39 percent of the two million starts, they would need to increase by 511,000 from their present level, and thus would account for virtually the entire rise.

The recovery in starts last year appears to have been due chiefly to the substantial improvement in the availability of funds for mortage lending. Other factors which affect starts, although showing improvement, are still not particularly favorable by historical standards.

The net flow of new savings into insured savings and loan associations has increased dramatically to a record $28.3 billion in the first 11 months of 1975—seven times the unusually low total for the same period in 1974. As Chart 5 shows, these savings flows are very sensitive to shifts in rates on short-term Treasury bills, which provide an alternative use for savings. The savings flow was very large in the first half of the year, but fell off in the third quarter, when bill rates increased. Late in the year, however, as bill rates declined, the savings flow increased again.

Interest rates on conventional new-home mortgages, as estimated by the FHA, fell nearly a full percentage point over the 6 months ending last April, but have since held at 9 percent or slightly higher—historically a very high level. They increased somewhat in early fall, but have recently begun to recede.

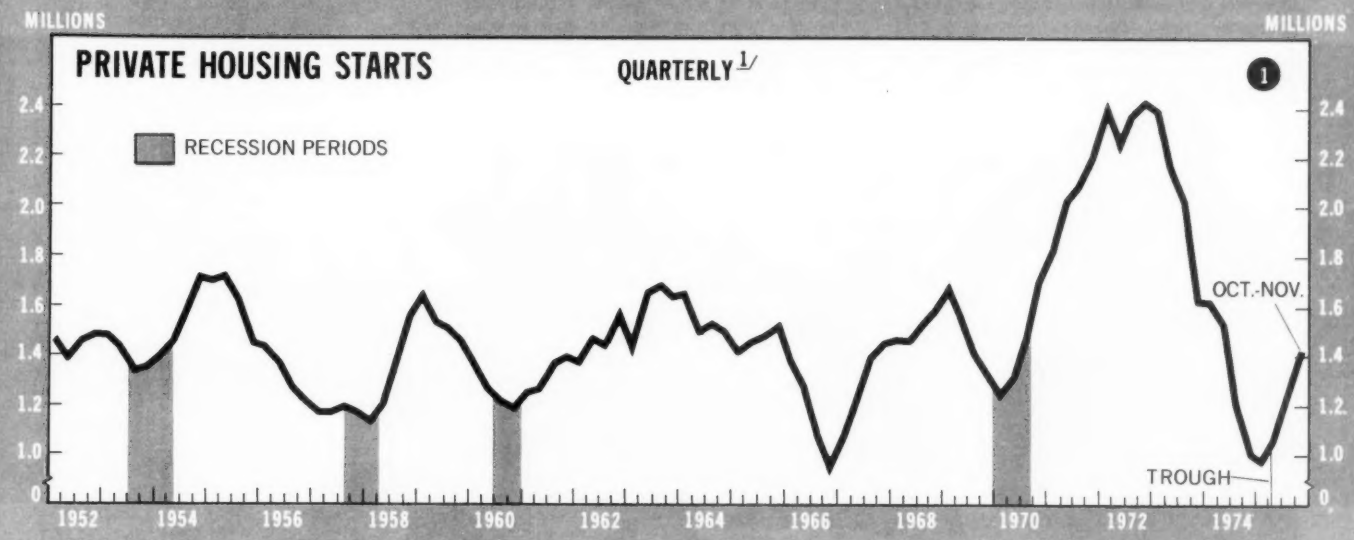
The uptrend in the price index for new one-family homes slowed to less than 2 percent from the first to the third quarters of 1975, compared with 6 to 7 percent in the same period of the previous two years. Although this slow-down has helped the housing recovery, home prices are nevertheless very high after the steep increases of recent years. The number of new homes for sale, measured in terms of months of sales at the current selling rate, is much less than in 1974 but still well above the 1970-72 levels (Chart 3). Vacancy rates for condominiums have also come down somewhat from their late-1974 peak, but are still very high.

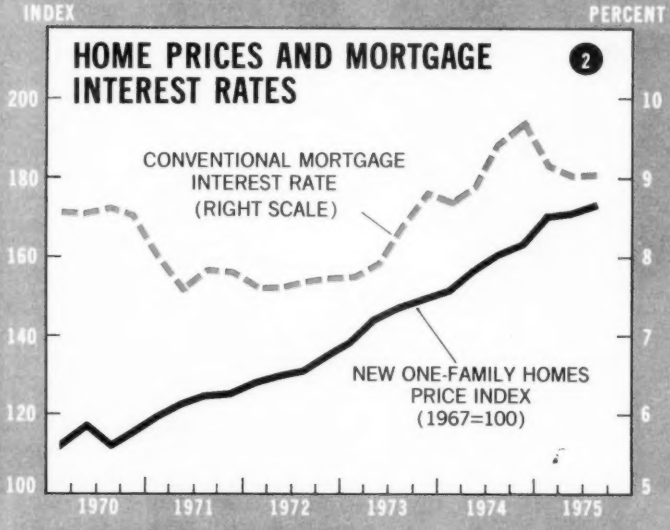
The downtrend of housing starts in 1973-75 contrasted sharply with changes in earlier postwar recessions (see Chart 1). During the latter stages of all of the postwar boom periods, housing starts declined as credit tightened. In the postwar recessions through 1970-71, they had shown little further decline or even an increase, thereby helping to limit the economic downturn. This time, however, the steep decline continued with the low point about coinciding with the trough of overall economic activity.

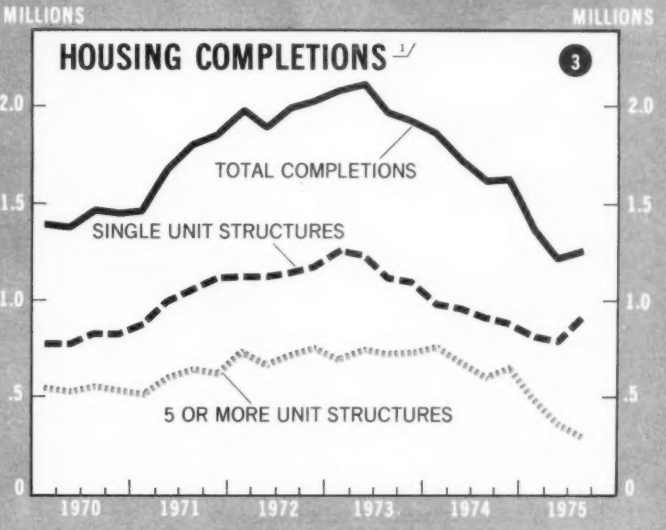
The difference in 1974-75 starts from earlier recessions reflects a change in credit conditions. In previous postwar cycles, interest rates peaked at the end of the boom, and fell in the recession. This time, however, they peaked three quarters after the high point in real GNP, which came in the fourth quarter of 1973. This continuing tightness in credit reflected the urgent necessity of curbing the rampant inflation of 1974. In previous cycles, inflation was not considered a paramount policy issue.

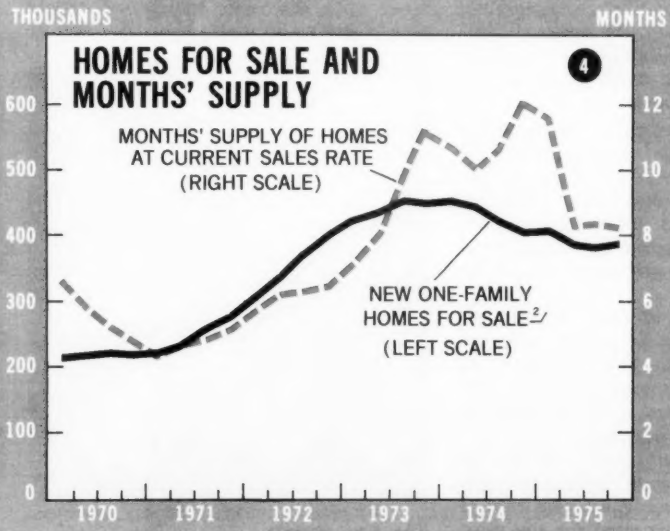
A major reason for the large inventory of multi-family units is that apartment completions continued at a very high level until 1974, because of the lengthy completion time needed for large buildings. Consequently a heavy volume of apartments were becoming available after the market had turned weak and financing difficult. In the first half of 1975, however, apartment completions fell very steeply, and remained low in the third quarter. This lessening in the new supply has contributed to the modest recovery in apartment starts.

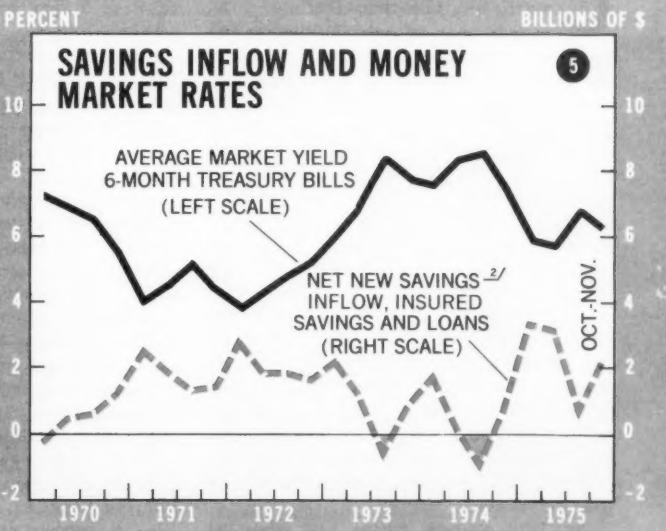
To hasten the recovery in apartment activity, HUD has recently released $3 billion to purchase FHA 7½ percent multi-family mortgages under the tandem plan. The $3 billion will finance an estimated 120,000 housing units, but the impact may not be felt for a few months. An additional $2 billion of appropriated funds is available, out of $10 billion authorized for the program.











1/ QUARTERLY DATA, SEASONALLY ADJUSTED AT ANNUAL RATES.
2/ MONTHLY AVERAGE

Economy to Show SPIRIT IN '76

Energy Problems Get Priority

Commerce's annual "Great Look Forward," the *Industrial Outlook: 1976,* sees a year of general though unspectacular recovery. It also is living proof that the energy situation is a permanent fact of life for all U.S. industries.

In its almost 500-page treatment of more than 200 U.S. industries and industrial groupings, the *Outlook* provides a detailed picture of where the U.S. economy now stands, how it got there, and where it's going in the next year. This year's *Outlook* also estimates how each industry will fare over the next decade.

The volume is strikingly illustrated with vintage photographs of early American industry, and charts and tables illustrating every conceivable form of economic activity. Many sections contain reference to further reading in that particular field, and three appendices compare the past and projected performances of the industries.

As 1976 opened, forces had been set in motion that would sustain real growth of 6 to 7 percent in the gross national product for the year. If realized, this growth rate would be slightly better than the average for the same stage of the preceding four recoveries.

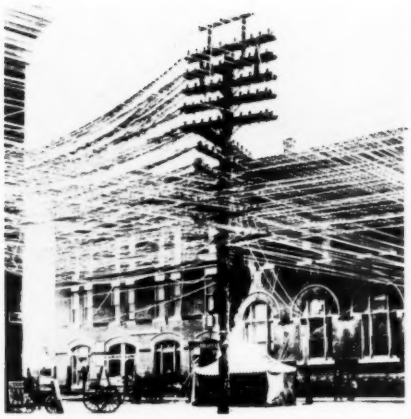
Chief factors buoying the recovery during 1976 will be strong growth in real consumer spending, further improvement in residential construction, rebuilding of business inventories, and a recovery in real capital spending. Government purchases are expected to increase moderately.

The U.S. balance of trade is expected to be somewhat less favorable, with imports growing faster than exports as economic recovery proceeds more rapidly in the United States than in most of her major trading partners.

The unemployment rate will remain high in 1976, but should decline throughout the year. An overall average rate of 7½-7¾ percent is expected for the year.

Continuing high unemployment, combined with the large margin of unused plant capacity in many industries and an

The way it was.



Energy problem: 1890-style.

expected cyclical rise in productivity seem likely to help curb the rate of inflation during the year. The consumer price index is expected to go up about 6½ percent.

Commerce Secretary Rogers Morton sets what proves to be a recurring theme in the opening article, a special report on energy:

"We are dealing with a situation in which finite resources are being depleted by an ever increasing rate of demand. Consider for a moment a mineral that would last a billion years at a given flat rate of consumption. Then, instead of keeping at this level, apply a growth rate of three percent a year. If so, the billion-year supply would run out in 582 years. The exponential growth becomes even more dramatic if you start with a two-billion-year supply because the second billion would be consumed in just another 23½ years.

"In recent decades, the United States has been increasing its demand for energy not by 3 percent but by 4 and 5 percent a year. And we're far from having a one-billion-year supply of any fuel that we are presently capable of using. Estimates of our oil reserves are imprecise, but it appears that oil can serve as a heating and transportation fuel for only about 25 years more, and then as a feedstock or course of petrochemicals for the remaining 25 years. Thus we might see the end of the petroleum era in about 50 years.

"In terms of energy equivalence, natural gas sells at $3.30 while oil is selling for up to $14 a barrel. Decontrol may cause higher energy prices, but painful as they may be, they will bring supply and demand into balance in both the petroleum and natural gas fields: they will stimulate exploration for new deposits, and they will encourage conservation of existing resources as well as spur the development and use of alternative fuels.

"The most promising near-term developments are the synthetic fuels that can supplement conventional supplies of oil and natural gas. An important advantage of synthetic fuels is their adaptability with very few if any modifications to our existing energy system.

"But coal is the crucial element in our drive to energy independence. It is estimated that we have over four times more energy in coal than the entire Middle East has in oil. At present rates of consumption, we have reserves that will last 350 years. The energy challenge is one of unparalleled magnitude. The Commission on Critical Choices estimates that we will need a capital investment of $800 billion by 1985.

"The business community of no other nation in the world could even dream of meeting such a challenge. No nation can determine its energy future as can the United States. We have the resources, the technological ability, and the kind and variety of capital financing needed to succeed. Only American business has the managerial skills and the organizational ability to assemble the scientific, manpower and material resources required for this massive undertaking."

Construction: partial comeback

The value of total new construction put in place in 1976 is expected to increase by about $20 billion over the 1975 level and reach a record total of $143 billion. However, this upsurge is from a depressed 1975 total activity level estimated at $123.5 billion—9 percent below 1974's $135.5 billion. Construction activity in physical terms (measured by adjusting value put-in-place for price changes) for 1975 as a whole, may be almost one-third less than the peak reached during the 1972-73 housing boom period. Even on the assumption of a reduction in the rate of construction cost increases during 1976, the physical volume level (measured in 1967 constant dollars) for the year is likely to be well below that of the 1970-74 period.

The collapse of housing starts in 1974-75 had several contributing causes. Particularly it may have signified growing consumer resistance to housing costs. The restraining impact of tight mortgage money, the high price of new units coupled with high interest rates, the rise in energy rates for heating and air conditioning, and the steady escalation of property taxes have led to an unwillingness of buyers to accept large-size units which require high monthly upkeep charges.

There is evidence that builders are responding by making units smaller, and that more attention is being given to installation of energy-efficient equipment and more insulation. Lower maintenance costs are objectives of an increasing number of builders when choosing building materials and there is more emphasis on extended warranties to new homeowners. These factors may encourage consumers to re-enter the new housing market in larger numbers, but this process may be gradual until real incomes begin to rise.

By 1985 the value of new construction put-in-place should approximate the $340 billion level. This assumes that about two-thirds of the average annual rate of growth will be due to higher construction costs and that the rate of housing starts by 1985 will be about 2.2 million units per year.

Public utilities construction, needed to enhance U.S. energy independence, should be in high gear by the mid-eighties. The replacement of many older buildings, in order to conform to new energy use standards, may provide impetus to new construction in various building categories.

Autos: the prime mover

Passenger car shipments totaled about $27 billion and 6.7 million units in 1975—less than was estimated one year ago. Production of 7.6 to 8.0 million cars is expected during 1976, with the volume of shipments exceeding $30 billion.

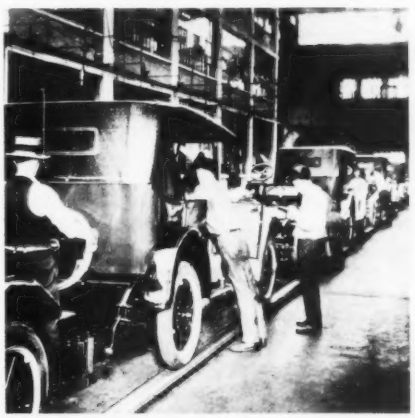
Production and sales of passenger cars are not expected to exceed 11 million units annually by 1985.

The automobile industry has pledged a 40 percent improvement in fuel economy before 1980. Many types of engines are under investigation such as the stratified charge, lean burn, Stirling cycle, diesel, turbine, steam, electric drive, and others that may make this goal attainable.

Achieving the goal would have enormous impact throughout the economy, by freeing the energy that the newly-efficient autos did not need for use by other industries where it is a vitally-needed feedstock.

The stratified charge, lean burn, and diesel engines are modifications of existing engines and could be in production as early as 1978, provided emission standards are relaxed.

The Stirling engine, gas turbine, steam



Early assembly line.

engine and electric drive are totally different types requiring complete rebuilding of production facilities. There are approximately 46 engine producing lines in the U.S. Changing these lines to different engines would require nearly 15 years and an estimated outlay of between $400 and $500 million per year. This cost may ultimately be borne by the automobile purchaser through higher prices.

Developments centering around the present engines do offer hope for greater economy. The vehicles and their engines are becoming smaller. New electronic control systems and better carburetion are improving performance and mileage per gallon. A recently announced chemical process added to catalytic converters promises to permit the use of leaded fuels and increase life expectancy of the unit. Consequently, auto builders could go back to higher compression and more efficient engines resulting in a significant saving.

Motor vehicles and allied industries account for about one-sixth of the Gross National Product. The automotive industry in 1973 consumed 21 percent of the steel, 12 percent of the aluminum, 9 percent of the copper, 47 percent of the malleable iron, 64 percent of all the rubber, 63 percent of the lead, and about 33 percent of all the zinc—that was used in the U.S. A recent independent study estimated that for every 10 workers producing cars, trucks, and parts, another 15 are employed producing the materials that go into them such as steel, rubber, glass, textiles and other components.

Steel: health returning

After more than two years of near capacity operation the steel industry joined the rest of the economy in a sharp contraction of activity in the spring of 1975, long after the other major industies had been affected and about the time the economy as a whole was bottoming out. However, 1976 is expected to be a much better year for the industry, with production of steel mill products rising successively each quarter to a total that may exceed 95 million tons, while raw steel production should approach 135 million tons.

Steel is not expected to be in short supply in any category during 1976, with the possible exception of oil country goods. Gradually improving demand by the automobile and construction industries should help to restore the measure of profitability to the steel industry that it requires to support needed expansion programs. This healthy steel outlook has a positive effect on the entire economy.

To date the industry has announced improvement and expansion plans to increase supply 20 million tons in the next few years. Much additional capacity will probably be needed, especially beyond 1980. Heavy "non-productive" expenses on pollution control equipment and the impact of large steel imports both on prices and on levels of domestic production are areas of concern to the industry.

Iron and steel continue to account for 5 or 6 percent of all energy consumed in the country. The industry has made marked progress in reducing the BTUs (thermal energy) required per ton of stell produced, but does not yet approximate the energy-efficient Japanese or German standards, largely because U.S. equipment is on average older and less energy-efficient, and because energy rather than labor has been more abundant and cheap in the United States. As more basic oxygen furnaces, continuous casters, and larger blast furnaces become the norm in the U.S., domestic energy efficiency will approach the best foreign practice.

For all its energy problems, the U.S. iron and steel industry consumes predominantly coal, the cheapest and most abundant fuel available, as opposed to high usage of oil and gas by foreign mills. Two-thirds of U.S. steel mill energy is from coal.

The use of nuclear energy seems very far off for domestic steel application. Also the use of direct reduced iron may not rise as projected, since it is not energy-efficient compared to blast furnace processes and requires scarce natural gas.

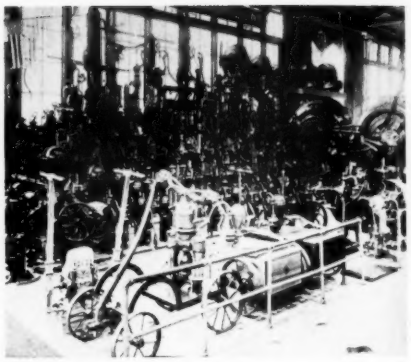
By 1985 the U.S. may see raw steel production reach the 195 million ton per year level compared with 1973 record levels of 150 million tons from an installed capacity base of about 160 million tons per year. This presumes that net imports continue to share about 10 percent of the U.S. market and that the growth of steel usage will be at least 2 to 2½ percent per year compounded.

On a worldwide basis, steel production is expected to grow to meet rising demand as the industrial countries approach U.S. standards of consumption and as the developing countries increase consumption, especially to support their raw material exploitation. Foreign steel may not be readily available to the U.S. market, except at premium.

Aluminum: energy strides

The energy-intensive aluminum industry, especially, has made considerable strides in recent years toward the conservation of energy in the production of primary aluminum. In early 1976, one aluminum company will bring on stream a new plant which will use some 40 percent less electricity per pound than the current average requirement for primary production.

Continued development of municipal waste recovery systems will give emphasis to the recycling of materials currently being discarded as unusable. The recovery of metals—both ferrous and non-ferrous—from municipal waste gives rise to the question of whether demand for the metals—which consist principally of steel, aluminum, and bimetal cans—will be great enough to accommodate both it and other metal scrap currently being recycled in the industrial stream. One steel company is looking to increased use of scrap in the blast furnace as one way of enlarging the market for scrap.



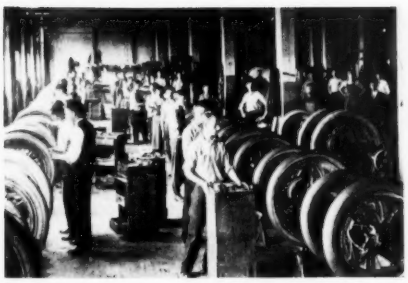
Steel provided the sinews.

The anticipated continuing high level of demand for most special industrial machinery will be reflected in increased industry shipments of about 11 percent in 1976, to almost $26.5 billion. Shipments of mining and oilfield machinery will show the greatest year-to-year gains, 24 and 23 percent, respectively, in 1976. Food products machinery shipments should rise 15 percent.

During 1975, the plastics industry slowly began to recover from the depths of the recession. Producers have resumed plans to expand production capacity and although 1976 will see ample plastic materials supplies, a basic problem of the industry remains unchanged—in a period of renewed strong demand, shortages could develop if the basic feedstocks, which are used for energy, are not adequate.

Plastics products have been a rapidly growing industry whose shipments tripled between 1965 and 1975. Assuming the availability of feedstocks and manufacturing capacity, a generally growing economy and no significant change in patterns of consumption, shipments of the plastics products industry would grow over 7 percent annually reaching $25 billion by 1985.

One of the great imponderables in plastics products is the vast potential that exists, especially in automotive and construction uses. If instead of using a few hundred pounds of plastics per car, auto manufacturers turn to plastics for the body and component parts; and if the great potential for plastics in construction should become a reality; then output would rise very rapidly and industry



Not a radial in a carload.

shipments for plastic products could be $50 billion or more by 1985.

Developments in biodegradable plastics continue, with the prospects of marketing plastics which will destroy themselves and also do away with litter and unsightly dumps.

Uncertainties about feedstocks may be allayed as alternate heating and energy sources become available and raw material sources are expanded. Coal-derived aromatics and oelfins are viewed as a possible source by 1985 of raw materials for the plastics industry.

Plastic bottles introduced

A major soft drink company has begun distribution of soft drinks packaged in 32-oz. plastic bottles and an intense marketing campaign is in progress in a selected area. The plastic bottle is said to weigh one-eighth as much as glass, thereby reducing transportation costs, and is breakage-resistant. The Food and Drug Administration has approved its use, discounting opposition by environmentalists, who question the safety of a basic manufacturing ingredient, acrylonitrile. The bottle is referred to as Easy-Goer and Cycle-Safe. It will burn in incineration, unlike glass or aluminum, and can also be recycled. Recycling centers and payments of 12½ cents per pound upon return of bottles are planned.

The first conversion to a metric container by a soft drink company has appeared in the form of a new liter-size, metric returnable bottle. Other firms are expected to follow suit.

Despite ecological emphasis on increased returnable beverage container usage, there has been no turn-around in the long-term downward trend for returnables, although shipment fluctuations have occurred from year to year, particularly in beer bottles.

Debate on throwaways

A bill to place a mandatory deposit on non-returnable containers and ban "pop top" containers was reintroduced in the first session of the 94th Congress. In the previous Congress hearings had been held but no action was taken.

At the state and local level voters have not favored restrictions on beverage containers. Several referendums to restrict these containers were defeated. To date, one state (Washington) and six localities, the largest being Dade County, Florida, have had referendums on the issue. Oregon and Vermont continue as the only two states to ban non-returnable containers.

There are even bright spots in the slumping aircraft industry, where total output is expected to dip slightly in 1976.

A 1975 survey indicated that 3.7 percent of the world's 205,474 civil aircraft were operated by the airlines. The remaining 96.3 percent (197,851) were general aviation aircraft. Within the United States general aviation aircraft fly five times more hours per year than the airlines and as a fleet consume only seven-tenths of one percent of all our nation's transportation fuels. It is expected that sales of general aviation aircraft will continue to remain high beyond 1976 because of their economies of operation, particularly in terms of fuel consumed per passenger mile.

Shipments of civil helicopters from U.S. manufacturers in 1975 were estimated at 1,100 units with a value of $330 million. This value of shipments is 75 percent higher than the $189 million value of 828 units shipped in 1974. During 1976 shipment expectations are for 1,200 units (a 9 percent increase over 1975), valued at $372 million (up 13 percent from 1975).

Feasibility studies involving airship/helicopter vehicles with a lift capability of 75 tons are expected to be completed in early 1976. For units of this and greater size there exists a potential market for moving generating equipment, industrial machinery, prefabricated buildings, and timber, to inaccessible areas, and for facilitating the movement of cargo from ship to shore. Movement of multi-ton pre-assembled industrial equipment from manufacturer to operating site may well reduce final costs to buyers of the installed equipment.

Drugs: recession-resistant

The drug industry's continued growth reflects the recession-resistant characteristics of the health-care field. Population growth, advances in medical science and drug therapy, and the expanding federal, state, and private programs to improve health-care services are all expected to have a favorable impact on drug industry shipments. Added impetus will be provided by the probable enactment in 1976 of a comprehensive national health insurance program, the implementation of which could take place during the last few months of the year.

In August 1975 the Department of Health, Education, and Welfare announced its maximum allowable cost (MAC) program that sets limits on payments under medicare-medicaid for multi-source prescription drugs. Its purpose is to effect economies in government outlays for drugs.

The expanded health care coverage expected under national health insurance will bolster drug-industry shipments; but under the MAC program drug prices are expected to be lower. However, the experiences of national health programs abroad have indicated that such programs spur sales expansion which, in turn, offsets lower prices and thereby increases profits. The same is expected to prevail in the U.S.

The more competively-priced generic drugs today are reported to account for 10 to 12 percent of the prescription drug volume, but by 1985 they are expected to account for 45 to 50 percent of prescription drug sales, as the patents on

Tidbits

The Industrial Outlook is a goldmine of information for any reader, including the trivia buff. The current issue contains, among others, the following items:

The ink was scarcely dry on the Mayflower Compact when North America's first patent was issued to Samuel Winslow of Massachusetts in 1641, for a method of making salt.

Radial tires, which accounted for only 2 percent of the U.S. market in 1970, are expected to account for 40 percent of 1976 sales. About three-quarters of all new cars come equipped with them, and 30 percent of tire replacements purchased are radials.

As more U.S. restaurants are serving alcoholic beverages, the number of purely drinking establishments is declining: from 111,300 in 1967 to 106,400 in 1972.

Vodka, virtually unknown in this country in 1950, is now the largest seller among distilled spirits. The next newcomer expected to show strong growth in the U.S. market: tequila.

U.S. families retain home freezers an average of 20 years, longer than any other major appliance. Dishwashers and washing machines have the shortest average life, 11 years. All the others last between 12 and 15 years. There has been no significant change in appliance service life since the last survey was conducted in 1961.

many large-volume brandname drugs run out between now and 1985 and the MAC program becomes firmly established as an instrument of governmental drug pricing policy.

The pressures being exerted by consumer groups to get anti-substitution laws repealed also will have an impact on drug prices. Antisubstitution laws that require prescriptions to be filled as written and do not permit substitution of chemically identical drugs prevail in virtually all the states. A few states have repealed antisubstitution laws and others are being pressured to follow suit.

Many states and municipalities have enacted laws making mandatory the posting in pharmacies of the most frequently prescribed drugs in order to foster competition and encourage lower prices. By 1985 their ranks should have grown appreciably.

Automation: cost-cutter

Rising production costs in all industries are expected to spur efforts to use more automatic electronic processes.

Computer industry shipments in 1975 are expected to increase 12 percent over 1974 shipments, while 1976 shipments are expected to increase 16 percent, reaching $12.1 billion. Industry shipments from 1975 to 1985 are expected to grow at a compound annual rate of 8 percent.

Further integration of computers into management of the national economy and their further penetration into our daily lives are anticipated in the next decade. Computer products will be increasingly user-oriented. A trend toward the "hardening" of software is also expected; that is, the user's programs will be increasingly built into computer hardware. Programming languages will move closer to natural language. Advances in circuit technology should continue to lower the prices of computers, further opening the market to small organizations and individual use.

Electronic Funds Transfer Systems (EFTS) has become an area of particular interest in the computer industry from both a technological and a socio-legal point of view. EFTS encompasses a variety of electronic payment methods in different stages of testing and application. EFTS can replace cash or check transactions by exchange of electronic data with considerable cost savings through reduction of paperwork and the increased speed and efficiency. However, legal questions have held back full-scale application. A National Commission on Electronic Funds Transfer has been established to assess the impact of EFTS on a national scale. The Federal Government is experimenting with EFTS in its Social Security payment system, and private EFTS development efforts are under way across the country.

Nineteenth century retailer.

Data communications, including use of satellites, should increase; applications of microcomputers will expand; and EFTS and point-of-sale checkout networks are expected to be connected in national systems with international links. New technology for auxiliary storage systems should be on the market, coming from current R&D efforts in such areas as magnetic bubbles, charge coupled devices and laser holography. Industry analysts expect a new generation of mainframes before 1980.

Despite increasing foreign technological competence, U.S. computer manufacturers should retain their position of market leadership.

In spite of declining revenues and income, manufacturers are maintaining their level of investment in research and development to sustain their high technological position. To conserve energy and maximize its use, computers have been coordinated with sophisticated electronic systems to monitor and control heating, cooling, fire and security conditions, and lighting and power limitation during peak hours.

Security systems, interlaced with the systems controlling heating and cooling, are programmed in case of fire, to turn off fans at the danger area to prevent the spread of smoke or flames, and to automatically prevent elevators from traveling to the danger area.

As owners of commercial and industrial buildings place greater reliance on building management systems to save energy and cut operating costs, control manufacturers are being called upon to an increasing degree to provide professional maintenance services. Maintenance contracts are being provided that encompass total building equipment maintenance which contributes to energy efficiency. In addition to servicing control systems, other contracts cover items such as chillers, condensers, boilers, fans, and pumps.

Many new technological developments are accompanied by counterpart developments in instrument design. A case in point is the recent advancement in electronic technology represented by the development of the microprocessor integrated circuit. As this electronic component is designed into measuring and controlling instruments it will add a new dimension to instrument performance and utility, enhance instrument value to the user, and enlarge supplier revenues.

Solid state components are finding increased application in rugged marine instruments designed to operate at great depths. An example is an optically scanned magnetic compass operable at 22,000 feet that contains light emitting diodes, phototransistors, and microprocessors, and can transmit multiple readouts to surface ships. For geological use, Columbia University researchers have developed a pocket-sized alkalivapor magnetometer, said to be capable of being produced for around $10 but to rival expensive bulky units.

A significant advance in the design of non-destructive test equipment appeared with the recent development of a pulse-echo acousto-optical system that does not require immersion in the tested liquid. Laser instruments are being used for remote observations of meteorological variables such as aerosol and particulate concentration levels in the atmosphere.

Retailing: aims at $1 trillion

Changing life styles of the American consumer through 1985 will be characterized by increased leisure, more travel, and a desire to enjoy the "good life" now. This mode of living will be reflected in the direction which major retail sectors will move to achieve total retail sales of $1.3 trillion by 1985.

Higher energy costs have many implications for retailers. Among these are decisions concerning new construction versus enlarging or renovating existing facilities; store expansion in suburban growth areas or in central cities with efficient mass transit systems; alterations of consumer shopping patterns associated with driving distance and gasoline cost. Furthermore, the growing consumer preference for smaller and more energy-efficient housing may lead to reduced floor space in future home construction and will require continuing review and modification of merchandise product lines.

While many department stores attempt to provide one-stop retail shopping, some larger chain stores are attempting one-stop financial services as well. These include insurance, investment services, and servicing of mortgage loans.

Other department store complexes have entered the field of manufacturing, thereby controlling quality and specifications for a variety of products, from the manufacturing process through retail distribution. Continuation of this trend is expected , with the creation of retail chains specializing within narrow product categories. Realty ventures involving development of shopping malls, real estate tracts, and franchising operations provide potential areas of diversification.

Special

For Foreign Tourists Should Outlive Bicentennial Year

Since courtesy is said to be contagious, the special efforts this country is making to be a gracious host to Bicentennial visitors from abroad should cause an epidemic of profits for the U.S. tourist industry that will continue long after the last Revolutionary souvenir has been sold.

Appropriately, it is in Philadelphia, the City of Brotherly Love and birthplace of the nation, that a taxicab driver hands a foreign tourist a fact sheet in his own language describing local activities of interest to a visitor. Philadelphia is just one of a number of cities undertaking special programs to welcome foreign visitors during the Bicentennial.

The multilingual fact sheets are part of the Bicentennial Visitors Service Development Project, administered by the Philadelphia Council for International Visitors. The Council received a $24,000 matching grant for foreign tourism promotion from Commerce's United States Travel Service. With this, they have developed some innovative programs to enhance the foreign visitor's stay in the Philadelphia area.

A comprehensive reference notebook, *Resources for Foreign Visitors,* has been put together by the Council's staff and volunteers. The publication, with updates, is being offered on a subscription basis to Greater Philadelphia's tourism industry—hotels, restaurants, visitor attractions, travel agencies and others—through October 1976. The notebook is designed for "front desk" use by personnel assisting foreign visitors, but it is expected that the visitors themselves will look at the desk copies.

Subjects covered by the handbook include: transportation, location and telephone numbers of consulates and embassies, foreign currency exchange locations, multilingual guide services, legal services, religious services, radio and television broadcasts in foreign languages, and foreign newspapers and magazines

available in Philadelphia. Among sections being completed for supplementary distribution are: home hospitality opportunities; multilingual medical, interpreter and secretarial services; ethnic restaurants; and retail stores, hotels and motels with multilingual personnel.

Another service for foreign visitors to Philadelphia has been developed by the Council for International Visitors—the Telephone Language Bank. The Council canvassed some 600 volunteers who had previously indicated foreign language capabilities to determine their ability to do interpreting over the phone. The resulting language bank file now consists of 168 people speaking 30 languages. The Council is developing publicity materials to call attention to the service. During the Bicentennial year the language bank will be expanded from an interpreting service to a "hot-line" to handle foreign visitor informational inquiries.

Several services that the Council provided for the 1975 Philadelphia Festival are being considered for use during 1976, such as multilingual aides at downtown information centers and translations of the Festival's fact sheets into French, German, Italian and Spanish. In addition to the city's taxicab drivers, fact sheets were distributed by the Convention and Visitors Bureau, personnel working at visitor attractions, and several international airline offices. Copies were distributed abroad by the United States Information Agency.

The Council arranged with Pan American World Airways to provide home hospitality opportunities in 1976 to foreign Pan Am passengers who request it. The hospitality will usually be an evening meal or get-together with the Council's volunteer families. This is a more specialized version of Americans-at-Home, the community-operated program publicized by USTS.

The Council is also engaged in preparing historical material relating to the French influence in Philadelphia and the German presence in the Delaware Valley, which should be of special interest to visitors of those nationalities.

The Council played a major role in a seminar held last spring that drew some 100 representatives from hotels and motels, restaurants, banks, tour guide agencies, visitor attractions and other local institutions to learn about preparations for Bicentennial foreign visitors.

Another city getting ready to host large numbers of foreign Bicentennial visitors is Washington, D.C. A private group, the International Visitors Service Council (IVIS), coordinates the activities of 76 organizations in the Washington area serving foreign visitors. IVIS is expanding its activities in an effort to serve the additional foreign visitors expected in 1976.

The Capital gets ready

The Council uses volunteers—some 700 of them—in staffing most of its activities, which include: a downtown reception center, multilingual escorts, arranging conferences and professional meetings, and obtaining invitations to private homes.

IVIS does not involve itself in promotional efforts aimed at bringing visitors to the area, but leaves these to the travel industry and the Bicentennial organizations. IVIS's contribution has been making its free services to international visitors known in the community and abroad.

With the aid of a USTS matching grant, IVIS studied the needs of international visitors to Washington during the Bicentennial era, and has drawn up a program to meet those needs. The areas in which IVIS found the foreign visitor to be most in need of help are: language assistance, Bicentennial information, currency exchange, transportation, lodging and emergency services.

To help foreign visitors surmount the language barrier, a Washington hotel, the Sheraton Park, has established an international lounge containing foreign language periodicals and newspapers, some multilingual tourist information and a direct telephone line to the IVIS office. The Sheraton Park ,along with other hotels in the area, had previously identified language skills among its employees and keeps this roster up to date and available to its front desk personnel.

Washington's Statler-Hilton Hotel has also established a direct telephone line to the IVIS office from the Assistant Manager's desk in the lobby.

The IVIS language bank—an integral part of the IVIS operation since its beginning—is a listing of individuals with capabilities in some 40 languages. To this has been added a roster of more than 300 federal government employees who have indicated willingness to use their language skills as volunteers during the Bicentennial period.

Commercial establishments and institutions are becoming more aware of the need for multilingual information. For example, the Chesapeake and Potomac Telephone Company in Washington, D.C., has printed a brochure containing instructions in French, German, Italian, Spanish and Japanese for using public telephones. American Telephone and Telegraph has also published explanatory pamphlets in foreign languages.

As to specific Bicentennial information, international visitors need the same information that domestic visitors need, but it must be presented in a more comprehensive fashion—in several languages and through non-verbal symbols. IVIS credits the Smithsonian Institution with taking the lead in preparing multilingual information. The Institution, which consists of ten museums and galleries, has established information phones at one of its locations on which information is presented in French, German and Spanish. It also has developed a language color-code, which if properly publicized could make it much easier for international visitors to obtain information and assistance in their own languages.

Present plans call for IVIS volunteers to staff the National Visitors Center, scheduled to open on July 4, 1976, and possibly to help out the Federal Aviation Administration, the National Park Service and the U.S. Postal Service with their information services.

IVIS has been in touch with local banks to ascertain their currency exchange facilities. One, Riggs National Bank, has agreed to provide an after-hours telephone service, where quoted rates of exchange will be guaranteed for a 48-hour period. This should encourage the "hospitality industry" to accept payment in other currency than dollars, and may eventually serve as an incentive to department stores to do the same. Riggs is also preparing a brochure illustrating American coins and bills.

At the urging of IVIS, the Tele-Trip Company, an affiliate of Mutual of Omaha, has begun offering a foreign currency exchange facility at its insurance desk at Washington National Airport. The exchange will be open weekdays from 6 a.m. to 10 p.m. and weekends from 8 a.m. to 4:30 p.m. Tele-Trip also performs this service at the Seattle/Tacoma Airport and at four Canadian airports.

To aid foreign visitors in getting around the capital city, IVIS has advocated use of international symbol signs wherever possible, such as at airports, rail and bus stations and on highways, and has worked with the local transit company in providing multilingual information.

A plan called Holiday Hosts has been instituted in an effort to register private households wishing to accept paying guests for bed and breakfast, and to serve as a reservation bureau for travelers desiring that kind of accommodation. It is expected that foreign visitors will be among those wanting to take advantage of this arrangement. Other plans under discussion, but still to be worked out, include matching up foreigners with their U.S. counterparts in government or agriculture.

IVIS has also met with the various security forces in Washington, including the Metropolitan Police Department, and the medical and emergency services to discuss special needs of international visitors.

Hospitality '76 in Chicago

A friendly way of observing the Bicentennial has been undertaken by two women from Winnetka, Illinois, a suburb of Chicago. They have established Hospitality '76, which provides an opportunity for American families to get to know international visitors to the United States during 1976. The program makes a particular effort to match up Americans with foreigners who share a special interest, if they so wish.

Chicago-area residents fill out an application indicating such things as how many individuals they can accommodate, whether they smoke or allow it in their homes, if they speak a foreign language, and whether they would like to have guests who share a common occupation or hobby with them.

Visitors fill out similar applications.

The directors of Hospitality '76, Ann Healy and Patricia Hilarides, suggest that the hosts not plan any sightseeing trips which the visitors could do on their own, but instead include them in typical American family activities.

The visits are for one or two days with overnights. The host receives no remuneration, but the guest pays a $15 fee to Hospitality '76 to cover administrative and correspondence costs.

Hospitality '76 is a nonprofit, all-volunteer program. In an effort to save money on international postage, yet assure expeditious mail, Hospitality '76 has established a courier service in which Americans traveling abroad take packets of letters with them and mail them in the country to which they are addressed.

The women got the idea for Hospitality '76 from their own trips overseas, where they found it much easier to get acquainted by renting rooms in private homes than is possible in the United States.

Hospitality '76 has been recognized by the Winnetka Bicentennial Committee as an official activity. With good support from Chicago families, the program can handle 1,000 reservations.

Just dial 1776

As one might guess, the telephone number 800-323-1776 is a Bicentennial service. The American hotel and motel industry has organized a nationwide reservation system to assist travelers who will be visiting the United States during the Bicentennial celebration.

This Independent Reservation System, with its toll-free number, was designed for independent hotels that lack individual reservation systems. When the foreign visitor calls the central number, he is given the names and prices of hotels and motels in the cities he plans to visit, and can make a reservation at the one(s) of his choice.

The United States Travel Service, as the national tourism office, maintains an extensive library of tourism information on the United States. But because of the sheer size of the country, the diversity of attractions and facilities, and the wealth of information provided by other government agencies and by regional, state and city tourism offices, USTS cannot be a depository of all available pamphlets and brochures on tourism. Therefore, the agency is publishing a *Traveler's Guide to Information Sources* to direct the traveling public, both American and foreign, to the correct sources for further information and assistance.

Almost all of the fifty states and the various territories of the United States have government-financed tourism offices which provide information about their areas. Many of the states also have welcome centers aimed at visitors arriving by car, located on major highways just inside their borders, where maps, brochures and other material can be obtained. Practically every city has a visitor's bureau, convention center or chamber of commerce with staff members available to inform visitors about the city or region.

The *Traveler's Guide* contains listings of city and state tourism offices with their addresses and telephone numbers, and of the welcome centers operated by individual states. Also included are a map and a listing of leading national parks operated by the National Park Service.

The Guide summarizes established language assistance programs operated by USTS in cooperation with the travel industry and other state, city and federal government agencies, such as the multilingual receptionists program at major gateway airports, a hotel/motel language certification program, TravelPhone USA and others.

Many community volunteer organizations maintain rosters of local residents who speak a foreign language and are willing to offer assistance to foreign visitors. The Guide provides a listing by state of these volunteer language banks. For emergency situations, it also lists the addresses of the 28 local offices, by city, of the American Council for Nationalities Service, a national nonprofit organization which assists immigrants.

The Travelers Aid International Service of America is also available to help foreign visitors in emergencies, especially any involving need for medical or legal assistance. Many of Travelers Aid's 82 member agencies maintain aid stations at air, bus and rail terminals.

Other emergency aid organizations listed include the U.S. Immigration and Naturalization Service, which has branch offices in most states, Federal Information Centers, and Embassies and Consulates of foreign countries.

A continuing problem for visitors to the United States is where to exchange their foreign currency into U.S. dollars. The Guide lists facilities of Deak-Perera Group, the largest private organization specializing in foreign money exchange, which has offices in some airports, as well as providing addresses of banks offering currency exchange.

As a final bonus, the Guide contains a bibliography of travel and tourism books that the visitor or traveler in the United States might find helpful. Addresses of the publishers are included to assure the books can be readily obtained.

These are just a sampling of the many Bicentennial projects undertaken by individuals, groups, cities and states around the country to make a U.S. visit a little easier and more pleasant for the foreign tourist. USTS' Visitor Services Division is assisting U.S. host organizations to develop continuing programs serving international visitors.

Energy Management Digest

BETTER BUILDINGS . . . ERDA has awarded a $99,463 contract to the University of Illinois to analyze the energy used in the construction of buildings from raw materials to finished structure. By tracking the energy consumed in all phases of building construction, and in the processing of building materials, information can be developed which designers, contractors and building owners can use to select energy-efficient techniques and materials. This research project will also aid in planning future research and development programs to conserve energy in all types of buildings. The nature of the building industry, which has been traditionally fragmented among tens of thousands of separate producers of building materials, contractors, and sub-contractors, has made it difficult to examine energy utilization from a more comprehensive viewpoint.

WHAT ARE THE ODDS? . . . The final report of a three-year study to estimate the risks to the public from potential accidents in today's large nuclear power plants has been completed. It concludes that: 1) Nuclear power plants are about 10,000 times less likely to produce fatal accidents than many non-nuclear activities. This comparison is based on the study of both nuclear power plants and non-nuclear events such as fires, explosions, toxic chemical releases, dam failure, airplane crashes, earthquakes, hurricanes and tornadoes. 2) Non-nuclear accidents involving comparable large dollar-value damage are about 1000 times more likely than nuclear power plant accidents. The chance that a person living in the general vicinity of a nuclear power plant will be fatally injured in a reactor accident is one in five billion per year, as compared with one in 4000 for a motor vehicle accident and one in 10,000 for a fall. The chance that a person will be injured in a reactor accident is one chance in 75 million per year.

COUNTER-PRODUCTIVE . . . The Federal Energy Administration (FEA), as a means of reducing electricity consumption, issued voluntary lighting guidelines for commercial and industrial spaces. Such conservation efforts, according to industry studies, may have a negative effect on the nation's productivity. The studies focused on jobs that were repetitious and lent themselves to precise measurement. Productivity declined 12 percent when the lighting level was reduced from 150 to 50 foot-candles during a study of keypunch operators. A second study, involving a search-and-identification type of task typical of warehouse order-picking, resulted in 13.5 percent higher output when lighting levels were increased from 5 ft-c to 50 ft-c.

WIND POWER . . . A summary of the Federal wind energy program is now available from the Energy Research and Development Administration. The report summarizes 46 ongoing ERDA contracts for research and development of wind energy systems. The Summary Report of the Federal Wind Energy Program (ERDA-84) is available from Commerce's National Technical Information Service, 5285 Port Royal Road, Springfield, Va. 22161. The cost is $5.45 per printed copy, $2.25 for microfiche.

ENERGY BONUS . . . The addition of oxygen to combustion air has long been known to increase production rates of many metallurgical processes. Now oxygen enrichment is becoming important as a means of conserving fuel energy, according to Union Carbide's Linde Division. A new brochure describes the application of oxygen enrichment to cupola furnaces. Examples of energy saving drawn from commercial experience at four foundries are included. Copies of the brochure, Conserve Energy in the Cupola with Linde Oxygen Enrichment (F-3865), are available from Union Carbide Corp., 270 Park Ave., New York, N.Y. 10017.

WARM WEATHER REPRIEVE . . . Unseasonably warm weather in November and early December has taken some of the chill out of natural gas shortages predicted this winter. "Natural gas shortages will be greater this winter than last, although not as great as previously forecast," FEA Administrator Frank Zarb said. Shortages have been further eased through two Federal Power Commission (FPC) regulatory procedures allowing high priority curtailed gas customers to buy gas directly from producers at free market rates and transport it through an interstate pipeline, and allowing local utilities and interstate pipelines to make 60-day emergency purchases at free market rates from available sources.

Capital Equipment Spending Plans For '76 Near $120 Billion; Real Outlays To Dip

Business expects to spend $119.7 billion for new plant and equipment in 1976, 5½ percent above the 1975 total.

The annual survey of business intentions conducted in late November and December by Commerce's Bureau of Economic Analysis estimated 1975 spending as $113.5 billion, a 1 percent increase over 1974. These data are not adjusted for price changes.

The survey reveals that business expects capital goods prices to rise 10 percent in 1976; respondents estimated that such prices rose 12 percent in 1975. Alternative estimates, such as the quarterly and annual implicit deflators for fixed nonresidential investment in the national income and product accounts, are likely to differ somewhat from the survey results.

Although incomplete, the estimates of 1975 capital goods price changes now available, including those supplied by business, indicate that 1975 investment in real terms declined at least 10 percent; the price expectations supplied by business in the survey suggest that the 1976 spending projection represent a smaller decline in real growth of about 4 percent.

Manufacturers expect spending to total $50.7 billion in 1976, a 5 percent increase over 1975. Nonmanufacturing industries expect a 6 percent increase, to $69 billion. In manufacturing, sizable increases are expected by textiles (16 percent), paper (15 percent), rubber (14 percent), food-beverage (11 percent). Spending increases of between 5 and 10 percent are expected by motor vehicles, chemicals, and petroleum.

Cancellations in 1975

In nonmanufacturing, public utilities expect an 18 percent increase. Last year, utilities had a 1 percent decline in spending primarily due to deferrals and cancellations of numerous electric utility projects. The commercial and communications group expects a 3½ percent increase in 1976 spending. Other nonmanufacturing industries expect spending to decline in 1976: air transportation—32 percent; railroads—10 percent; mining—4 percent; and "other transportation"—3 percent.

Manufacturers expect their sales to increase 11½ percent in 1976. Their 1975 sales actually increased only one-half of 1 percent, compared to the 9 percent increase they had expected a year ago. Trade firms expect a 9 percent increase in 1976 sales. Last year firms had an increase of 3 percent, as retailers reported an 8 percent increase and wholesalers a 2 percent decline. Public utilities expect a 15 percent rise in revenues for 1976, compared with a 21 percent rise estimated for 1975.

Both manufacturers and public utilities expect the prices of their products and services to rise at a slower rate in 1976. Manufacturers expect their selling prices to rise 5½ percent; they report that such prices rose 8½ percent in 1975—about the same as expected a year ago. Public utilities expect rates to rise 12 percent in 1976, compared to a 17½ percent rise for 1975.

Coverage of report

This summary of plant and equipment expenditures is based on estimates for nonagricultural industry groups. The basic data are derived from reports submitted by a large sample of companies, unincorporated as well as corporate, to the Bureau of Economic Analysis. Transportation companies report to the Interstate Commerce Commission.

The estimates presented are universe totals of expenditures for new plant and equipment in the United States based on the sample data. They are compiled from reports on a company basis and not from separate reports for plants or establishments. A company's entire capital expenditures are assigned to a single industry in accordance with the industry classification of the company's principal products.

The 1976 figures reported above are adjusted for systematic biases. The adjustments, computed separately for each major industry, were applied when expected spending deviated in the same direction from actual spending in at least five of the last seven years. When this criterion was met, the adjustment was derived by taking the median deviation between expected and actual spending for the last five years.

Finer adjustments due

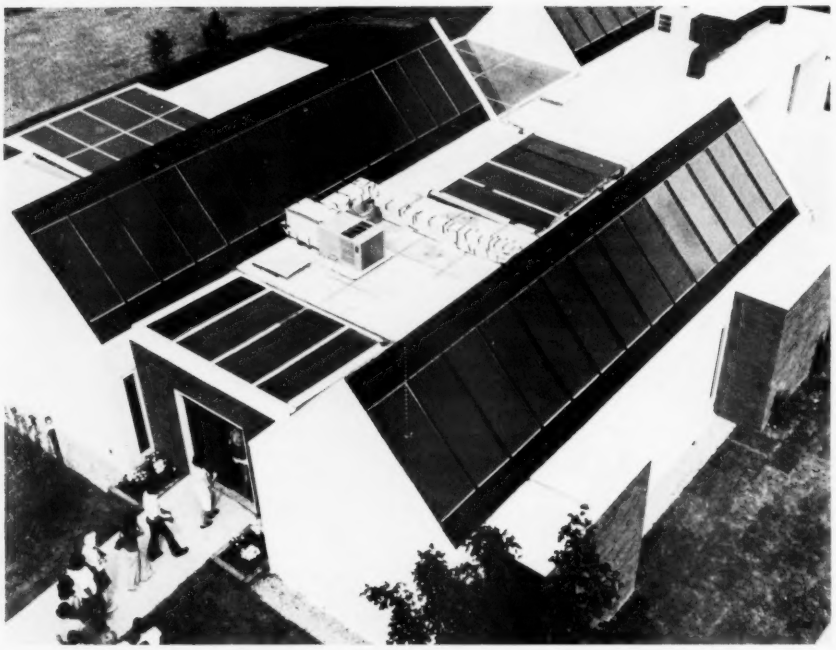
Before adjustment, expenditures for manufacturing were expected to be $52.9 billion, and $68.9 billion for nonmanufacturing. The bias adjustments used in the present survey are based on less adequate data than the adjustments that will be used in the survey to be released early in March. For that survey, the adjustments are based on the experience of the entire postwar period.

Thus, the results to be released in March may differ from the results shown by this survey not only because of changes in the underlying reports but also because of the use of more comprehensive information on the bias adjustments.

New Booklet Describes Federal Standards Work

A unique, 75-page "Guide to Standards Activities of Federal Agencies" has been prepared by Commerce's Office of Product Standards, a constituent unit within the Office of the Assistant Secretary for Science and Technology. The booklet describes the standards activities of more than 125 Federal Government offices, including regulatory and voluntary standards-making and participation in domestic and international standards organizations. Addresses and telephone numbers of these offices and a six-page subject index enable the reader to quickly identify Federal Government interest and expertise in specific standards activities.

Copies of the Guide can be ordered for $4.50 each from the National Technical Information Service (NTIS), Springfield, Va., 22161. For fast service include the Guide's accession number—PB-247-066.



OHIO'S FIRST—*This pioneer solar home, located on the Ohio State Fairgrounds in Columbus, is the first in Ohio to provide heating, air conditioning and hot water through solar energy. Guidelines for comparing the effectiveness of various solar energy systems have been prepared by the National Bureau of Standards.*

Guidelines Published For Evaluating Economics of Solar Energy Systems

Guidelines for evaluating the economic costs and benefits of solar heating and cooling systems for buildings have been developed by an economist at Commerce's National Bureau of Standards.

The guidelines are expected to answer a need of researchers and analysts for reliable procedures for comparing the economic merits of solar energy systems with conventional heating and cooling systems. Naturally, widespread future use of solar energy systems in buildings hinges in large part on their relative economic performance.

The report, *Solar Heating and Cooling in Buildings: Methods of Economic Evaluation*, shows step-by-step how life-cycle cost methods may be applied to the evaluation of solar heating and cooling systems. It identifies the relevant kinds of costs over the lifetime of the heating and cooling system and describes how the effective costs to the owner of a solar-equipped residence or commercial building would be altered by income taxes, insurance and governmental incentives programs.

The first section of the report includes generalized life-cycle cost and benefit-cost models, explains the techniques for developing models for unique systems, and discusses the sensitivity of costs to key assumptions, such as discount rates, period of analysis, fuel costs and construction and labor costs.

A case example is used to illustrate a benefit-cost comparison of a solar heating system and a conventional system over a 20-year period.

The report's second part explains the economic conditions for making cost-effective tradeoffs in the design of a heating and cooling system within a building, and the problem of designing a system that will satisfy requirements of comfort, heat delivery, and energy conservation at least cost under a given situation.

While the report is intended primarily as a resource document for research analysts, it provides the background for the type of comparison that is needed by builders, architects, lenders, manufacturers of solar energy equipment, government policy makers, homeowners, and others for decision-making situations in which a solar heating and cooling system is being considered instead of a conventional system.

The 41-page report may be ordered from the National Technical Information Service, 5285 Port Royal Rd., Springfield, Va. 22161, priced at $3.75 for hard-cover copy, $2.25 in microfiche. The identification number, which must be used to order, is COM-75-11070.

Nuclear Wastes Report To Include Public Comment

The Energy Research and Development Administration is preparing a comprehensive report on alternative methods of managing radioactive wastes from the commercial nuclear reactor fuel cycle, including the ultimate storage of this waste.

This report will provide a baseline of information about nuclear waste management. As such, it will be used to choose the waste management alternatives to be given detailed consideration in ERDA's expanded commercial radioactive waste management environmental statements.

Meanwhile, ERDA continues to study the use of underground salt beds as a disposal site. Tests are under way to evaluate a specific site in a large salt formation 30 miles east of Carlsbad, New Mexico. The consideration and evaluation of a variety of other geologic storage formations, such as salt domes, granite and shale could eventually lead to similar storage demonstrations and increase the number of acceptable locations for the ultimate storage of radioactive waste.

The study, which is expected to be completed early next year, will cover radioactive wastes from nuclear power reactors, spent fuel storage basins, fuel reprocessing plants, mixed-oxide fuel fabrication facilities, and materials from retired commercial nuclear facilities that require decontamination.

A brief summary of the scope and contents of the report, titled *Scope Description—Alternatives for Management of Wastes from the Commercial Nuclear Fuel Cycle*, has been prepared.

Since the report will serve as a basis for the preparation of an expanded generic environmental statement on commercial radioactive waste management, public review and comment on the Scope Description would be useful in the preparation of the report.

Such comments should be sent to the Division of Nuclear Fuel Cycle and Production, U.S. Energy Research and Development Administration, Washington, D.C. 20545.

The public may obtain additional copies of the Scope Description from ERDA's Office of Public Affairs, Washington, D.C. 20545 and copies are available for inspection in the ERDA Public Reading Rooms in Albuquerque, Chicago, Idaho Falls, Las Vegas, Oak Ridge, Richland (Wash.), San Francisco and Savannah.

A technical meeting, open to the public, will be scheduled this summer to provide more detailed technical data on waste management alternatives.

Top Officials Join Push To Boost Consumer Voice In Government

Major Administration figures will hear consumers' views on their representation in government at conferences at opposite ends of the country this month.

Two Commerce-related conferences, arranged in response to President Ford's directive to improve consumer representation in government, will be held January 19 in Atlanta and January 29 in San Francisco. Commerce Secretary Rogers C. B. Morton will chair the Atlanta meeting, while Treasury Secretary William E. Simon will host the San Francisco event.

Commerce Department consumer representation plans will be presented in both cities by Dr. Betsy Ancker-Johnson, Assistant Secretary for Science and Technology.

Also participating in these regional conferences will be representatives from the Departments of Agriculture, Defense, and Treasury; General Services Administration, and Small Business Administration.

Agency representatives will present their plans for consumer representation at the plenary session. Separate workshop sessions for each agency will allow consumers and agency representatives and program managers to exchange views on the specific plans of most interest to them.

New division to serve consumers

Commerce's consumer representation plans include establishment of a Consumer Affairs Division which will serve as a focal point for Commerce-related consumer inquiries and requests for assistance. It will also seek consumer views on current consumer issues.

The new Division is part of the Bureau of Domestic Commerce in the Domestic and International Business Administration. DIBA is one of the four centers for Departmental involvement in consumer-related issues. The other three are National Fire Prevention and Control Administration; National Bureau of Standards; and National Marine Fisheries Service.

Invitations to consumers and consumer groups are being issued by the Federal Executive Board in each of the two metropolitan areas, and the conferences are also open to interested members of the public.

Further information about the conferences may be obtained from the regional Federal Executive Boards in each of the conference cities:

In Atlanta, James W. Fields, Federal Executive Board, P.O. Box 20636, Atlanta, 30320.

In San Francisco, Colonel A. C. Ellis, Federal Executive Board, Hq. WAMTMC, Oakland Army Base, Oakland, 94626.

Public Comment Asked On Federal Microfilm Rule

A proposed Federal Information Processing Standard for image arrangement, size, and reduction ratios to be generated by computer output microfilmers purchased by federal agencies has been announced for public comment by the National Bureau of Standards. The standard also applies to microforms provided to the Federal Government through service contracts.

Computer-output-microfilm, commonly referred to as "COM," is a technology that enables the output of computers to be recorded directly on microfilm rather than paper. It is a blending of computer, microphotography, and electronics technologies.

The proposed standard contains specifications for roll film and microfiche. The formats provided include both 24:1 and 48:1 reduction ratios.

COM output devices are 10 to 50 times faster than printing on paper, the information produced is more accessible for retrieval, and the microfilm occupies much less storage space. Mailing costs of documents and data can also be cut considerably through extended use of COM.

The proposed standard was developed by a task group from 12 federal agencies. This standard is based on earlier efforts of the National Micrographics Association, an industry association concerned with the development of voluntary industry standards under the provisions of the American National Standards Institute.

A copy of the proposed standard may be obtained from the NBS Office of ADP Standards Management, Washington, D.C. 20234, (301-921-3157). Comments are due by March 23.

Labor Statistics Show Wages, Productivity Up; Real Income Down

Productivity in the private economy rose in the third quarter of 1975 at a 9.5 percent annual rate, the largest increase since the first quarter of 1971, according to the Labor Department's Bureau of Labor Statistics. The increase reflected a 12.1 percent gain in output and 2.4 percent rise in hours. Output per hour of all persons had declined 0.6 percent in the first quarter and increased 4.2 percent in the second quarter of this year.

In the nonfarm sector, output per hour of all persons increased at a 9.4 percent seasonally adjusted annual rate in the third quarter, compared to a decline of 2.6 percent in the first quarter and a 5.7 percent increase in the second. The productivity increase reflects a 11.1 percent increase in output and a 1.5 percent increase in hours of all persons. The third quarter increase was the largest since the second quarter of 1961.

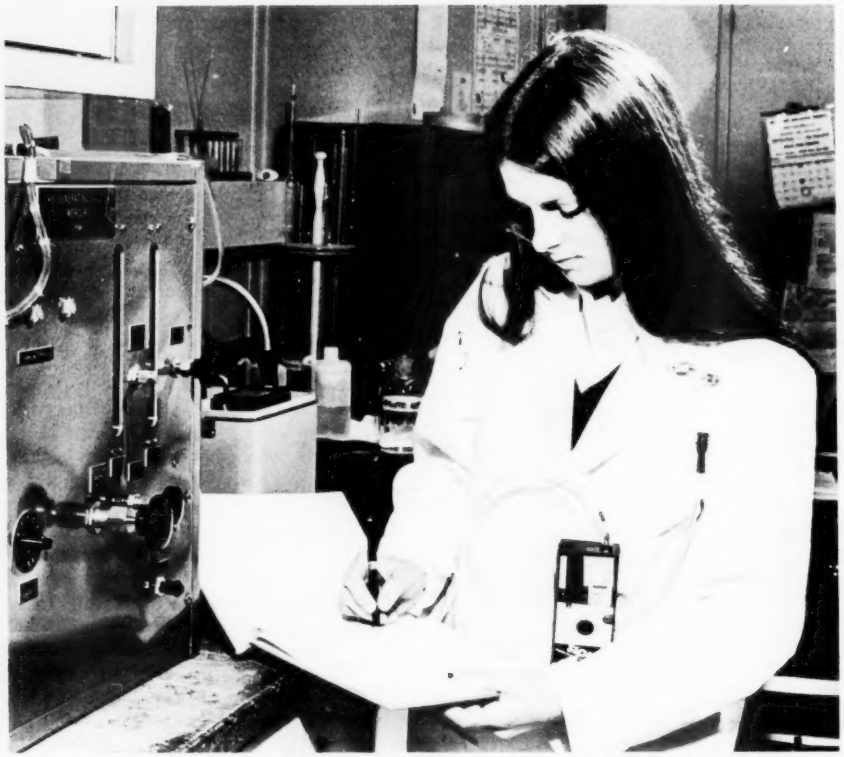
In manufacturing, labor productivity increased 8.9 percent in the third quarter, reflecting increases of 15.8 percent in output and 6.4 percent in hours. Productivity had decreased 9.6 percent in the first quarter of 1975 and increased 2.8 percent in the second.

Compensation per hour of all persons (which includes the costs of wages, employer contributions to Social Security and fringe benefits) rose 6.8 percent in the total private economy in the third quarter, the smallest increase in these costs since the first quarter of 1974. The slower rate of increase in costs and the larger increase in productivity combined to reduce unit labor costs 2.4 percent in the third quarter, compared with a 3.2 percent increase in the preceding period. This was the first decline in unit labor costs since the second quarter of 1972, and the largest since the third quarter of 1965.

However, real compensation per hour (hourly compensation adjusted for changes in the Consumer Price Index) declined 1.5 percent at an annual rate in the third quarter, after having increased in the two preceding quarters.

In the nonfarm sector, hourly compensation of all persons increased 8.6 percent in the third quarter, compared with a 7.7 percent increase in the second quarter. When coupled with the 9.4 increase in labor productivity, unit labor costs declined 0.8 percent. This was the first decline in these costs since the second quarter of 1972 and the largest since the third quarter of 1965.

In the manufacturing sector, compensation per hour of all persons increased 8 percent in the third quarter, compared with a 9.2 percent increase in the preceding period. Unit labor costs fell 0.8 percent—the first decline since the first quarter of 1973 and the largest since the third quarter of 1972.



MERCURY DETECTOR—*Commerce's National Bureau of Standards has developed a sensitive monitor that can be worn by workers to measure their exposure to mercury. It is inexpensive to produce and can be reused at least 100 times.*

Mercury-Detecting Device Can Help Protect U.S. Industrial Workers

Government researchers think they have taken a major step along the road to occupational safety for U.S. industrial workers.

Scientists at Commerce's National Bureau of Standards (NBS) have developed a new sensitive monitor for determining the occupational exposure of a worker to mercury. The monitor will help public officials protect some 150,000 workers who are employed in industries where mercury exposure is a daily and potentially hazardous occurrence.

In addition to its extreme sensitivity and selectivity for mercury, the monitor is portable, easy and inexpensive to produce, and reusable. Unlike other monitors currently in use, the NBS device gives the total accumulated dosage of mercury over a workday, rather than the concentrations of mercury a worker is exposed to at a given time.

Mercury poisoning was once a common occupational hazard associated with hatters who often went mad from the compound they used to cure felt and fur hats (thus giving rise to the expression "mad as a hatter"). Victims developed a tremor called "hatter's shakes," which affected their eyes and limbs and addled their speech. In advanced stages, they developed hallucinations and other psychotic symptoms.

Use of mercury in the hat industry was outlawed in the 1940s. However, mercury poisoning is still an occupational hazard today. The "metal of a thousand uses," as mercury has been called, is a prime component in the electrical apparatus industry, such as in the manufacture of dry cell batteries, switches, and other electrical components. Its single largest use is in the production of two industrially important chemicals, chlorine and caustic soda. Because of its versatile and unique properties, mercury and its compounds are also used widely in pharmacology, the paint industry, agriculture and many other applications.

To protect workers in these industries, the National Institute of Occupational Safety and Health (NIOSH) several years ago formulated standards which limit the exposure of workers to mercury. Employers are required to insure that the standard is met by monitoring levels of mercury in the breathing zones of workers, since most mercury poisoning is caused by inhaling mercury vapors. The NIOSH regulations also require the accumulated dosage in a workday.

The NBS monitor will provide more accurate monitoring of workplace mercury concentrations, thus helping to insure that federal health standards are met. The monitor is much more sensitive than most other techniques now used, with an ability to measure mercury concentrations at the parts per billion level. Other industrial pollutants that might be present in a workplace do not interfere with the monitor's readings.

Another important feature of the monitor is its portability. Many mercury monitors in use today are stationary and thus do not necessarily measure accurately the mobile worker's real exposure to mercury. The NBS device, on the other hand, is so small and lightweight that it can be worn on the worker's clothing in his breathing zone and used in conjunction with commercially available miniature air pumps.

Although the monitor was developed for use in the industrial workplace, it has other possible applications, for example, in studies of dentists and dental hygienists who have long-term exposure to small concentrations of mercury.

Crimes Against Business Subject Of Coast Seminars

Crime against business is a serious and growing problem that impacts on all types of business firms.

What's being done about it? The Department's Bureau of Domestic Commerce is implementing a seminar series in Los Angeles (February 3) and San Francisco (February 5) to acquaint business executives with the magnitude of the problem, and to stress the importance of aggressive management attention in cutting crime costs.

Cutting crime losses should receive the same sort of constant aggressive attention devoted to cutting labor costs, facility costs or any other costs that sap profits. This involves review of such things as the sufficiency and quality of present protective efforts and techniques, prosecution practices, and employee selection and training.

Seminar panel topics include securities fraud, computer related crimes, embezzlement, internal/external loss, employee rights/privacy, and credit losses.

The seminars will be cosponsored by the California Chamber of Commerce, the Los Angeles Area Chamber of Commerce and the Commerce Department District Offices. Those interested in attending should contact the Department of Commerce District Office in Los Angeles (213-824-7591) or San Francisco (415-556-5868).

Industry Highlights

U.S. Firms Jolted By Japan's Surging Consumer Electronics Sales

(Industry Highlights is prepared by the Office of Business Research and Analysis, Bureau of Domestic Commerce.)

The U.S. consumer electronics market provides an almost classic example of how foreign suppliers can penetrate and dominate a market in a relatively brief period of time.

For the domestic consumer electronics industry, 1966 was a significant year. Up to that point, the industry had experienced steady growth of output. Production of television sets, radios, and phonographs had continued to increase, both in number and value. Industry employment reached its peak, with 110,000 production workers.

In 1967, however, most of the domestic industry's indicators declined. Since then, production of monochrome television sets, radios and record players continued to decline.

The only sector of the industry which has recovered from the 1967 setback is color television sets, and danger signs are beginning to appear even here.

Similarly, the apparent productivity increases since 1969, as indicated by the steady growth of value added per production worker manhour, are to a large extent the result of greater use of parts and components produced abroad.

The major market development during this period was the growth of imports, in both absolute and relative terms. While shipments of U.S. produced consumer electronics products grew at an average annual rate of 4.6 percent during the period, imports grew at a rate of 26.5 percent annually.

Small beginning

From a small beginning in 1963, when imports supplied less than 7 percent of U.S. consumption of consumer electronic products, the value of imports reached an estimated $2.3 billion in 1974, or 42 percent of the total market.

Exports did not keep pace—rising from 2.4 percent of producers' shipments in 1963 to only 10.7 percent in 1974.

While imports supplied more than one-third of U.S. consumption in 1971, U.S.-owned firms supplied 75 percent of the market from the combined production of their domestic and offshore plants which shipped their products back to the U.S. market.

Although Japan still holds the dominant position as major exporter to the United States, its position is being challenged by less-developed countries and low-wage areas in the Far East.

As noted above, color television is the only area in which imports had not dominated or made major inroads as of 1972. However, recent product mix trends in Japanese shipments to the United States indicate that the U.S. color television market will experience increased penetration by Japanese units in the near future.

Ownership changes which took place in 1974 in four large domestic consumer electronic manufacturing firms, and the decision by the largest U.S. firm (RCA) in this industry to discontinue domestic production of all consumer electronic products except color televisions, along with the steady decline since 1967 of the wholesale price index for television receivers, attest to keen competition and the impact of a general economic downturn in the United States.

To determine what factors most affect the U.S. competitive position worldwide, a detailed survey of four principal U.S. manufacturers was conducted by the Bureau of Domestic Commerce. The firms rated the factors as listed in the box below.

Factor	Importance rating (percent)
Production costs	37
Performance and reliability	22
Marketing tactics	16
Management policies	10
Government policies	9
Institution factors	6

Limited data indicate that U.S.-based industry is now more cost-competitive with Japanese industry as a result of the U.S. currency changes. However, the realignment has had some negative effects on U.S. industry. U.S. consumer product manufacturers import a substantial part of their components from Japan and other Far Eastern countries. The increased cost of imported components has raised U.S. production costs 3 to 4 percent. Their offshore production costs probably have increased at least twice this amount.

The Japanese first entered the U.S. market with products that U.S. manufacturers were not emphasizing and created a market for them. These were the small low-priced transistor radios and tape recorders, small screen television receivers, and the low-priced compact stereo systems.

The U.S. consumer electronics industry, meanwhile, was concentrating on big-ticket items.

This concentration probably was due in part to the fact that U.S. traditional distribution structures and merchandising outlets were not well suited to such items as the small, relatively inexpensive Japanese products.

The need for a larger number of new retail outlets for these products was demonstrated when the Japanese entered the market with small radios, recorders and players, small screen televisions, and compact stereo systems. To obtain large-scale distribution, the Japanese placed their merchandise in such nontraditional outlets as drug stores, variety stores, small appliance dealers, and discount chains.

A key element in Japan's successful penetration of the U.S. market was its ability to bar U.S. and other foreign-made consumer electronic products from its own domestic market until Japanese manufacturers had achieved volume output and the production costs were lower than those outside Japan.

Technology use shift

Technology has not been a very important competitive factor in the consumer electronics market—the initial technological advantage of the United States disappeared as licensing of Japanese manufacturers and U.S. contracting for offshore production proceeded. The performance and reliability of U.S. and Japanese products are essentially equal. A shift in the exploitation of the available technology did occur, however.

Tape recorders provide an interesting example of technology exploitation by the Japanese. Although the United States produces the most sophisticated commercial video, audio, and digital recorders in the world, the Japanese completely dominate the U.S. consumer tape recorder market.

Yet, Japan obtained much of her basic technology from the United States. Between 1969 and 1971, Japan approved 135 licensing agreements with foreign firms for audio tape recorders and players, video tape recorders, and recording tapes; 120 of them were with U.S. firms.

The Japanese have achieved a high level of performance and reliability in their current product lines. This reputation has been a major factor in U.S. consumer acceptance of Japanese brands.

All major Japanese firms have sales and service subsidiaries in the U.S.

Japanese styling, especially in audio equipment, is excellent. The Japanese tend to dress their products with styling cosmetics that do not add to performance but have considerable consumer appeal. They depend on U.S. consultants for styling and marketing guidance, but they have a very effective and responsive intelligence feedback system for marketing, styling, and technological information.

Where The People Are

(In thousands)

Region, division, or state	July 1, 1975 (est.)	April 1, 1970	Change, 1970 to 1975	
			Number	Percent
United States	**213,121**	**203,304**	**9,817**	**4.8**
Regions:				
Northeast	49,461	49,061	401	0.8
North Central	57,669	56,593	1,076	1.9
South	68,113	62,812	5,301	8.4
West	37,878	34,838	3,039	8.7
New England:	12,198	11,847	351	3.0
Maine	1,059	994	66	6.6
New Hampshire	818	738	80	10.9
Vermont	471	445	26	5.9
Massachusetts	5,828	5,689	138	2.4
Rhode Island	927	950	−23	−2.4
Connecticut	3,095	3,032	63	2.1
Middle Atlantic:	37,263	37,213	50	0.1
New York	18,120	18,242	−121	−0.7
New Jersey	7,316	7,171	145	2.0
Pennsylvania	11,827	11,801	26	0.2
East North Central:	40,979	40,266	713	1.8
Ohio	10.759	10,657	102	1.0
Indiana	5,311	5,196	116	2.2
Illinois	11,145	11,113	32	0.3
Michigan	9,157	8,882	275	3.1
Wisconsin	4,607	4,418	189	4.3
West North Central:	16,690	16,328	362	2.2
Minnesota	3,926	3,806	120	3.1
Iowa	2,870	2,825	45	1.6
Missouri	4,763	4,678	85	1.8
North Dakota	635	618	17	2.7
South Dakota	683	666	17	2.6
Nebraska	1,546	1,485	61	4.1
Kansas	2,267	2,249	18	0.8
South Atlantic:	33,715	30,679	3,036	9.9
Delaware	579	548	31	5.7
Maryland	4,098	3,924	174	4.4
District of Columbia	716	757	−40	−5.4
Virginia	4,967	4,651	315	6.8
West Virginia	1,803	1,744	59	3.4
North Carolina	5,451	5,084	367	7.2
South Carolina	2,818	2,591	227	8.8
Georgia	4,926	4,588	338	7.4
Florida	8,357	6,791	1,565	23.0
East South Central:	13,544	12,808	736	5.7
Kentucky	3,396	3,221	175	5.4
Tennessee	4,188	3,926	262	6.7
Alabama	3,614	3,444	170	4.9
Mississippi	2,346	2,217	129	5.8
West South Central:	20,855	19,325	1,530	7.9
Arkansas	2,116	1,923	192	10.0
Louisiana	3,791	3,642	148	4.1
Oklahoma	2,712	2,559	152	6.0
Texas	12,237	11,199	1,037	9.3
Mountain:	9,644	8,290	1,354	16.3
Montana	748	694	53	7.7
Idaho	820	713	107	14.9
Wyoming	374	332	42	12.5
Colorado	2,534	2,210	324	14.7
New Mexico	1,147	1,017	130	12.7
Arizona	2,224	1,775	448	25.3
Utah	1,206	1,059	147	13.8
Nevada	592	489	103	21.1
Pacific:	28,234	26,549	1,686	6.3
Washington	3,544	3,413	131	3.8
Oregon	2,288	2,092	197	9.4
California	21,185	19,971	1,214	6.1
Alaska	352	303	49	16.3
Hawaii	865	770	95	12.3

U.S. Population Hits 215 Million

The United States began the new year—at 12:01 a.m. January 1, 1976—with an estimated 215,005,859 population according to the Bureau of the Census, part of the U.S. Department of Commerce. The figure is about 1.8 million merce. The figure is 1.8 million higher than the Bureau's estimate a year earlier.

The total includes the populations of the 50 states, the District of Columbia, and the American Armed Forces and federal employees overseas and their dependents.

The 1.8 million gain registered during 1975 is higher than the 1.6 million increase of 1974 and the 1.5 million increase of 1973, but is considerably lower than the record 3.1 million gain during 1956. The rate of increase during 1975 was 0 8 percent, a slightly higher rate than that for 1974. During the period 1947-61 the annual rate of gain ranged from 1.6 to 1.8 percent.

Based on data for the first ten months of 1975, the Census Bureau estimates that the net gain was the result of about 3.2 million births, 1.9 million deaths, and net immigration of about 504,000. Included in the immigration figure are roughly 141,000 Vietnamese who entered the country during 1975.

The *Statistical Abstract of the United States* ranks the nations of the world bv their 1973 populations. It places the United States fourth behind the Peoples Republic of China, with 814.3 million; India, with 574.2 million; and the U.S S.R., with 249.7 million.

The Abstract notes that the world population estimate for 1973 was 3.86 billion, with the population increasing 2.1 percent per year between 1970-73.

NBS Design Requirements Will Aid Computer Privacy

Commerce's National Bureau of Standards has issued an index of design requirements for automated systems to help federal agencies implement the provisions of the Privacy Act of 1974.

The index results from activities of Federal Information Processing Task Group 15, a public advisory committee established to advise the NBS Institute for Computer Sciences and Technology on computer systems security.

The "Index of Automated System Design Requirements as Derived from the OMB Privacy Act Implementation Guidelines," identified as NBSIR 75-9009, Accession Number (PB 246-863), is available from the National Technical Information Service, 5285 Port Royal Road, Springfield, Va. 22151, at a cost of $3.50 (Microfiche $2.25).

Recent NTIS Publications

These recent reports of government-conducted or government-sponsored research of possible interest to U.S. businessmen are available from the National Technical Information Service. Prices listed are for paper copies; second prices, where listed, are for microfiche. All others are available in microfiche for $2.25. Order from NTIS, Springfield, Va. 22161 (703-321-8543).

Productivity of servicing consumer durable products (PB-238 070/CZ). MIT Center for Policy Alternatives. 334pp. $9.50.

Control of oil and other hazardous materials (PB-238 096/CZ). EPA Office of Water Programs Operations, Cincinnati. 183pp. $7.

Instrumental analysis of chemical pollutants training manual (PB-238 893/CZ). EPA Water Quality Office, Cincinnati. 282pp. $8.75.

Summary of the Office of Toxic Substances requirements resulting from the Toxic Substances Control Act and a preliminary specification for a data management system (PB-238 088/CZ). NBS Inst. for Computer Sciences and Technology. 143pp. $5.75.

Where the boilers are: a survey of electric utility boilers with potential capacity for burning solid waste as fuel (PB-239 392/CZ). Gordian Assoc., N.Y. 337pp. $9.50.

Industrial energy study of the petroleum refining industry (PB-238 671/CZ). Sobotka & Co., N.Y. 98pp. $4.75.

Economic analysis of effluent guidelines: steam electric powerplants (PB-239 315/CZ.) Temple, Barker & Sloane, Wellesley Hills, Mass. 332pp. $9.50.

Economic analysis of effluent guidelines for the asbestos industry (PB-238 268/CZ). Arthur D. Little, Inc., Cambridge, Mass. 116pp. $5.25.

Stability of glass fiber-plastic composites (AD/A-003-449/CZ). Auburn U. 100pp. $4.75.

Flywheel energy systems. (SAND-74-0113/CZ). Sandia Labs, Albuquerque. 46pp. $4.

Wisconsin superconductive energy storage project: vol. I (PB-238 082/CZ). U. of Wisconsin Engineering Experiment Station, Madison. 468pp. $11.50.

An exploratory study of possible applications for modern technology in the retail food industry (PB-238 566/CZ). MIT Electronic Systems Lab 110pp. $5.25.

Research on the application of solar energy to the food drying industry (PB-238 073/CZ). California Polytechnic U., San Luis Obispo. 312pp. $9.25.

Evaluating maintenance performance (AD/A-004 761/CZ). Air Force Human Resources Lab. 38pp. $3.75.

Job analysis for human resource management: a review of selected research and development (PB-238 789/CZ). Manpower Management Inst., Washington, D.C. 88pp. $3.50.

Machining data handbook (AD-742 058/CZ). NTIS. 1,000+pp. $35/$35.

Economic analysis of effluent guidelines: leather tanning and finishing industry (PB-238 060/CZ). Development Planning & Research Assoc., Manhattan, Kan. 115pp. $5.25.

U.S. ocean shipping technology forecast and assessment. Vol. I: summary. (COM-75-10001/CZ). United Aircraft Research Labs. 200pp. $7.25.

The airport passenger head tax: analysis of its potential impact (AD/A-004 308/CZ). Federal Aviation Admin. 149pp. $5.75.

Changing water use in selected manufacturing industries (AD/A-003 264/CZ). National Bureau of Economic Research. 163pp. $6.25.

Intercity freight movement by rail and highway (PB-239 006/CZ). Transportation Research Board, Washington, D.C. 50pp. $2.20.

Production, distribution use and environmental impact potential of selected pesticides (PB-238 795/CZ). Midwest Research Inst., Kansas City. 453pp. $11.50.

Industrial energy study of the petroleum refining industry (PB-238 671/CZ). Sobotka & Co., New York. 98 pp. $4.75.

Flywheel energy systems (SAND-74-0113/CZ). Sandia Labs, Albuquerque. 46pp. $4.

Engineering and cost study of air pollution control for the petroleum industry. Vol. I: Carbon black manufacture by the furnace process (PB-238 324/CZ). Air Products and Chemicals Inc., Marcus Hook, Pa. 127pp. $5.75.

Bibliographies Available

The following bibliographies, with abstracts, are available for $25 each in both paper and microfiche):

Seals and gaskets (NTIS/PS-75/140/CZ). 185pp.
Reinforced plastics: Part 1—fiberglass reinforcement (NTIS/PS-75/109/CZ). 156pp.
Fire alarms and fire detectors (NTIS/PS-75/133/CZ). 101 pp.
Economic development of ethnic minorities (NTIS/PS-75/120/CZ). 91 pp.
Minority business (NTIS/PS-75/119/CZ). 76pp.
Standard reference materials (NTIS/PS-75/041/CZ). 91pp.
Textile processing wastes (NTIS/PS-75/080/CZ). 64pp.
Chemical analysis of steel (NTIS/PS-75/289/CZ). 115pp.
Bridges: construction and construction materials (NTIS/PS-75/076/CZ). 109pp.
Microcomputers (NTIS/PS-75/251/CZ). 64pp.
Night vision devices (NTIS/PS-75/055/CZ). 100 pp.
Robots (NTIS/PS-75/064/CZ). 94pp.
Computer performance evaluation (NTIS/PS-75/063/CZ). 45 pp.
Energy conservation (NTIS/PS-75/214/CZ). 98pp.
Solar electric power generation (NTIS/PS-75/346/CZ). 99pp.
Windpower (NTIS/PS-75/348/CZ). 90pp.
Industrial health hazards due to atmospheric factors (NTIS/PS-75/022/CZ). 186pp.
Gas scrubbers (NTIS/PS-75/163/CZ). 161pp.
Use of ultrasonics in manufacturing (NTIS/PS-75/244/CZ). 94pp.
Superalloys (NTIS/PS-75/179/CZ). 177pp.
Industrial psychology (NTIS/PS-75/082/CZ). 165pp.
Collective bargaining, wages and contracts (NTIS/PS-75/291/CZ). 60pp.
Fishery law (NTIS/PS-75/111/CZ). 131 pp.
Work attitudes in the civilian work force (NTIS/PS-75/300/CZ). 183 pp.
Waste heat utilization (NTIS/PS-75/215/CZ). 122pp.
Shipborne containers and containerization (NTIS/PS-75/284/CZ). 105pp.
Oil recovery (NTIS/PS-75/254/CZ). 91pp.
Strip mining (NTIS/PS-75/054/CZ). 106pp.
Hazardous materials transportation (NTIS/PS-75/286/CZ). 131 pp.
Bicycles (NTIS/PS-75/074/CZ). 47 pp.
Housing, taxation and financing by federal, state and local government (NTIS/PS-75/203/CZ). 92pp.

Calendar For Businessmen

Jan. 27—Paducah, Ky.—Domestic Business Conference, Paducah Chamber of Commerce Board Room. For information, Paducah Chamber, Memphis District Office.

Jan. 27-28—Raleigh, N.C.—Energy From the Oceans conference, Hilton Inn. Sponsors: Univ. of N. Carolina Sea Grant & others. For information, Division of Continuing Education, P.O. Box 5125, N. Carolina State Univ., Raleigh, N.C. 27607.

Jan. 27-29 — Washington — Improving Managerial Skills, Georgetown Univ. For information, Betsy Girton, Continuing Management Education Program — SSCE, Georgetown Univ., Washington, D.C. 20057 (202-625-4353).

Jan. 27-29 — Andover, Mass. — Home Marketplace of the Future for Visual Communications & Information Products, Andover Inn. Sponsor: Institute for Graphic Communication. For information, IGC, 375 Commonwealth Ave., Boston 02115 (617-267-9425).

Jan. 27-29—New York — Management Skills for Women Managers seminar, New York Sheraton. For information, Advanced Management Research International Inc., 1370 Ave. of the Americas, N.Y. 10019 (212-765-6400).

Jan. 29—Kingsport, Tenn. — Domestic Business Conference, Mead Auditorium, Kingsport Public Library. For information, Kingsport Chamber of Commerce, Commerce Memphis District Office.

Jan. 29—Memphis—Productivity Measurement Seminar, Memphis State U. Sponsors: Memphis State U., Memphis Area Chamber of Commerce, Commerce Memphis District Office.

Jan. 30—Oak Ridge, Tenn.—Domestic Business Conference, Oak Ridge Chamber of Commerce Board Room. For information, Oak Ridge Chamber, Commerce Memphis District Office.

Feb. 2-4—San Francisco—Management Skills for Women Managers, The Fairmont. For information, Advanced Management Research International, Inc., 1370 Ave. of the Americas, New York 10019 (212-765-6400).

Feb. 2-4—Dallas—Southwest Air-Conditioning, Heating, Refrigerating Exposition, Convention Center. For information, Int'l Exposition Company, 200 Park Ave., New York 10017.

Feb. 2-6—Houston—Solar Energy Seminar & Workshop, Holiday Inn Downtown. Sponsor: Commerce's National Technical Information Service. For information, Heidi Kaplan, New York Management Ctr., 360 Lexington Ave., New York 10017 (212-953-7262).

Feb. 3—Bowling Green, Ky.—Domestic Business Conference, Bowling Green Chamber of Commerce Board Room. For information, Bowling Green Chamber, Commerce Memphis Office.

Feb. 3-4—Gaithersburg, Md.—Workshop on Standard Reference Materials for Coal Desulfurization, National Bureau of Standards Administration Bldg. For information, Donald Becker, NBS (301-921-2128).

Feb. 3-4—Philadelphia—Planning & Land Use Control course, Drexel Univ. For information, Richard B. Newman, Director, Continuing Professional Education (215-895-2154).

Feb. 3-7—New Orleans—Society of Industrial Realtors annual convention, Royal Sonesta Hotel. For information, Robert Boley, SIR, Washington, D.C. (202-628-5300).

Feb. 6 — Brooklyn — Business Opportunity/Federal Procurement Conference, Pratt Institute Activities Center, 215 Willoughby St. Sponsor: U.S. Rep. Fred Richmond. For information, Louis Gordon, c/o Rep. Richmond, 147 Montague St., Brooklyn 11211 (212-522-7121).

Feb. 7-9—Houston — Fundamentals of Finance & Accounting for the Non-Financial Executive, Hyatt-Regency. Sponsor: The Wharton School, Univ. of Penna. For information, Heidi Kaplan (address above).

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Changing Tariff Situation Affects U.S. Competitiveness In Western Europe Markets

United States exporters to Western European markets are finding that enlargement of the European Economic Community and trade agreements of non-members with the EEC are resulting in additional tariff changes on industrial goods.

Producers located within what will eventually amount to a 16-member free trade area now enjoy even lower tariffs within the area than they did last year. Exports from the United States to these countries will, however, for the most part continue to face the same duties; the exceptions are the tariffs of the three new members of the EEC — the United Kingdom, Denmark and Ireland.

Although average tariff levels in Europe are relatively low, largely as a result of three decades of trade liberalization under the General Agreement on Tariffs and Trade (GATT), tariff changes on many price sensitive products can still be crucial in a particular transaction. The following brief description of the pattern of changes, prepared by Edward F. Mullelly of Commerce's Office of International Marketing, is intended to clarify the present situation.

External tariff changes

On Jan. 1 of this year, the United Kingdom, Denmark and Ireland — new members of the EEC as of Jan. 1, 1973— made the third move in aligning their national tariffs on industrial goods to the EEC's Common External Tariff (CXT). The process of alignment involves a step-by-step elimination of the differences between the tariff rates of the new members and those of the CXT. If the former rate is lower, it must be increased; if higher, it will be reduced.

This third move of 20 percent (the first move of 40 percent and second move of 20 percent were made on Jan. 1, 1974, and Jan. 1, 1975, respectively) means that a total of 80 percent of the alignment has now been implemented. The final 20 percent move to full alignment will take place on July 1, 1977. For example, the base rates of 14 percent for the United Kingdom and duty-free for Denmark and Ireland on automatic data processing machines falling under Brussels Tariff Nomenclature (BTN) heading 84.53 have been moving to the EEC's CXT rate of 7 percent. This means that on Jan. 1 the U.K. rate was reduced from 9.8 percent to 8.4 percent while the Danish and Irish rates were increased from 4.2 to 5.6 percent. The final move on July 1, 1977, will bring the U.K., Danish and Irish rates to 7 percent.

In a few cases there were no rate changes this year because the EEC's CXT rate was already in effect. This was due, mainly, to the decision not to stage rate changes when the difference between a new member rate and the CXT was slight, i.e., when it did not exceed 15 percent of the CXT rate. In these cases the move to the CXT was made in a single step on Jan. 1, 1974; e.g., the increase in the U.K. rate on cash registers falling under BTN 84.52 from 5 to 5.5 percent. It was also decided to move the new members' rates on European Atomic Energy Community (EURATOM) items to the EEC's CXT rates in one step on Jan. 1, 1974, regardless of the difference in rates.

Internal tariff changes

It should be emphasized that although 16 Western European countries made tariff rate revisions on Jan. 1 *only* the United Kingdom, Denmark and Ireland made changes that apply to U.S. exports. The other changes, discussed below, apply to trade among the 16 countries themselves.

The original six members of the EEC (Belgium, France, Germany, Italy, Luxembourg and the Netherlands) and the three new members (United Kingdom, Denmark and Ireland) began a progressive elimination of duties on imports of industrial goods from each other on April 1, 1973, when a 20 percent cut was made. Additional 20 percent cuts were made on Jan. 1, 1974, and Jan. 1, 1975. The fourth 20 percent cut became effective Jan. 1 of this year, resulting in a cumulative reduction of 80 percent. For example, imports of ADP machines into the Six from the United Kingdom, Denmark and Ireland are now subject to a rate of 1.4 percent (7 percent reduced by 80 percent); the final 20 percent cut to zero will be made on July 1, 1977. Similarly, imports into the United Kingdom from the Six are now subject to a rate of 2.8 percent (14 percent reduced

IMF Proposals Include 'Float'

An amendment to the charter of the International Monetary Fund that will permit floating currency exchange rates was among the proposals approved this month in Kingston, Jamaica at a meeting of the Fund's 20-member Interim Committee.

In releasing the text of the proposed new Article IV of the IMF's Articles of Agreement, the U.S. delegation noted that the revision now must be approved by the IMF Board of Governors and then submitted to the member governments for acceptance. This process could take up to two years.

The move toward world currency reform allows a variety of exchange rate practices and places major emphasis on the need for stability in underlying economic conditions. The revised provisions represent a flexible framework for future adaptation of the exchange system.

The exchange rate amendment was one element of a comprehensive monetary package approved at the Jamaica meeting that also includes measures to reduce gold's monetary role and to increase IMF quotas.

by 80 percent); this rate will be reduced to zero on July 1, 1977.

Imports into the United Kingdom from Denmark and Ireland, as well as imports into Denmark and Ireland from the United Kingdom, are subject to preferential treatment (mostly duty-free) during the transitional period. The preferential treatment is the result of past U.K. and Danish membership in the European Free Trade Association (EFTA) and the Anglo-Irish Free Trade Agreement. Duties on trade between Denmark and Ireland are being eliminated according to the basic timetable.

The EEC and the seven present EFTA countries—Austria, Finland, Iceland, Norway, Portugal, Sweden, and Switzerland—have entered into broadly similar preferential trade agreements, all of which generally provide for duty-free trade in industrial goods by 1977.

Each agreement, however, has longer transition periods for sensitive products, such as certain steel products, aluminum and paper. Moreover, the transition period for Portugal and Iceland has been extended.

As of Jan. 1, tariffs on the great majority of items traded between the EEC of Six and the EFTA countries have been reduced by 80 percent; the final 20 percent cut to tariff elimination is scheduled for July 1, 1977. Duty-free trade, with a few exceptions, among the seven EFTA nations and the United Kingdom and Denmark (former EFTA members) is being maintained. Tariffs on trade between Ireland and the EFTA countries are being progressively eliminated.

Summary of revisions

In summary, duty rates on imports into the original six EEC countries from the United States remain unchanged, while those on imports into the United Kingdom, Denmark and Ireland are, in most cases, changing as they are aligned to the EEC's CXT; the different duty rates levied on U.S. exports by each of the seven EFTA nations also remain unchanged (EFTA, unlike the EEC, is not a customs union and, therefore, has no common external tariff); and on July 1, 1977, trade in the vast majority of industrial products among the 16 countries making up the EEC and EFTA will be duty-free.

Information regarding Western European country duty rates applicable to specific industrial products may be obtained from Regional Affairs for Developed Markets, Office of International Marketing, U.S. Department of Commerce, Washington, D.C. 20230, phone 202-967-2346. Inquiries should contain a complete product description, including BTN, SITC, or U.S. Schedule B Export Commodity numbers, if known, and names of particular countries of interest.

Commodities

This is another in a series of reports by the International Commodities Division, Office of Import Programs, Bureau of Resources. It should be noted that U.S. participation in multilateral commodity agreement negotiations, described below, is subject to governmental review and approval, including ratification by the Senate.

Cocoa: The International Cocoa Conference in Geneva has completed a draft Second International Cocoa Agreement. Along with 60 other countries, the U.S. participated in the four-week negotiations that ended Oct. 25. The five-year agreement will come into force Oct. 1 upon ratification by producing and consuming countries. Like its predecessor, the agreement is based primarily on an export quota system and augmented by a buffer stock. A price range of 39 to 55 cents per pound is specified. Quotas will operate up to a 47 cents midpoint, and buffer stocks will operate near the high and low prices. Although the price range is higher than that of the first agreement, actual market prices have remained even higher. The U.S. did not join the first agreement, but cooperated by furnishing statistical information to the International Organization.

Coffee: A new International Coffee Agreement was drafted in five-week Coffee Council sessions that wound up in London Dec. 3, with the U.S. among 63 negotiating nations. If approved by importing and exporting countries, the agreement comes into force Oct. 1 for six years. Export quotas are basic to the agreement, but it will begin without them unless the indicator price drops below 63 cents per pound. (Following a frost in Brazil last July the price increased sharply to about 85 cents.) Unique features in the new agreement include provisions for automatic suspension and introduction of quotas, a clear definition of shipment shortfalls, and a more flexible calculation for determining country export quotas. The U.S. was a member of the agreements of 1962 and 1968.

Lead and Zinc: The International Lead and Zinc Study Group, meeting in Geneva Oct. 30-Nov. 8, reviewed current supply-demand developments and concluded that consumption and production of both metals should show some recovery after the substantial decline in the industrialized nations in 1975. The Group, set up in 1960 and composed of 30 producing and consuming countries, provides a forum for exchange of views on supply-demand developments.

Rubber: A natural rubber price stabilization scheme sponsored by the major producing countries of Malaysia, Indonesia and Thailand was expected but not presented at the Oct. 28-31 assembly of the International Rubber Study Group at Jakarta, Indonesia. These countries reaffirmed their intention to complete the plan soon. Technical matters relating to market situations in both natural and synthetic rubbers occupied the delegates.

Sugar: At the International Sugar Organization meeting in London Nov. 10-21, the consensus of the 38 consuming and producing member nations was to authorize a small advisory group to begin the draft of a new international agreement. Negotiations are now scheduled to begin Sept. 13. Although not an Organization member, the U.S. attended as an observer and stated its intention of participating in the forthcoming negotiations.

Wheat: The International Wheat Council, meeting in London Dec. 2-5, discussed proposals for a new international agreement, since the present one is scheduled to expire on June 30 at the end of a one-year extension. The U.S. proposed an international system of nationally-held grain reserves with a release mechanism based on production trends and stock levels. Discussion is being resumed this month. Last year the U.S. had proposed a meeting of major grain producing and consumer nations to deal with the need for improved world food supplies.

UNCTAD Proposals: The Committee on Commodities of the UN Conference on Trade and Development (UNCTAD) met in Geneva Dec. 8-19. Views differed widely on the UNCTAD Secretariat's proposals for an integrated program for international action in the field of primary products. Principal elements of the proposals are a series of international buffer stocks, beginning with ten "core" commodities, and a common fund to finance the stocks. Suggested commodities are coffee, cocoa, cotton, jute, rubber, copper, tin, tea, sugar and hard fibers. It was agreed that UNCTAD's Trade and Development Board, meeting in March, should make detailed recommendations on this program, so that decisions can be made at the fourth session of UNCTAD in Nairobi in May.

Anti-Boycott Penalty

A civil penalty of $1,000 has been imposed upon Getty Oil Co. for failure to report a Kuwaiti request in support of the boycott of Israel, the Department of Commerce announced. Getty did not contest the charge and consented to the issuance of an order by the Director, Office of Export Administration, imposing the penalty. Export Administration Regulations require a report to be made to the Department when a request is made to comply with foreign countries' restrictive trade practices and boycotts.

'EXPORTING' THE GRAND CANYON—*Narration in four languages, English, French, German and Japanese, helps bring the marvels of the Grand Canyon to foreign visitors who take Scenic Airlines "E" Award-winning tours out of Las Vegas, Nevada.*

The Many Sides Of Exporting

The great variety in the American export scene is dramatized in this sampling of recent awards to U.S. enterprises for their outstanding contributions to the country's balance of payments.

The precision that is associated with U.S. technology and admired the world over extends from the 29,000 pound Lubrite bearings sent abroad by the Merriman Division of Litton Industries, through the tools for masons, plasters and other construction workers produced by the Marshalltown Trowel Co., to the tiny instruments used by dentists and made by the Midwest American Dental Division of the American Hospital Supply Corp.

Trade promotion activities by which a state supports the export efforts of its manufacturers and distributors won honors for the South Carolina State Ports Authority.

And far off the beaten track of export expansion was the program of foreign visitor assistance that won an "E" award for Scenic Airlines of Las Vegas—one of the most unusual of all such programs to win this national recognition.

TO DENTISTS IN 40 COUNTRIES—*Midwest American Dental Division of American Hospital Supply Corp. increased its sales abroad last year by 63 percent. Sharing recognition of this are (from left) Division President Wiley N. Caldwell; Gerald M. Marks, Commerce's Chicago Regional Director; Midwest American officials William Hilvert, Roland Higbee, and Emery Davis.*

U.S. FIRM HELPS TAME THE THAMES—*A 29,000-lb. bearing for the Thames River Flood Control Project in England helped win the "E" for Merriman Division of Litton Industries, Hingham, Mass. From left are: Donald E. Johnson, Deputy Assistant Sec'y of Commerce; Richard Treadway, Commerce's Boston District Office Director; Merriman President Jack E. Williams, and Burnell A. Gustafson, Litton Senior Vice President.*

HONORS TO A STATE—*James C. Hair, Vice Chairman of the South Carolina State Ports Authority, accepts "E" from Sen. Strom Thurmond of South Carolina (right) for his agency's aggressive export promotions.*

FOR CONSTRUCTING WORLD MARKETS—*Marshalltown Trowel Co., Marshalltown, Iowa, has achieved an average annual growth of 57 percent in the past three years for exports of its hand and power trowels. Vice President R. B. Becker accepts "E" from Donald E. Johnson (right), Deputy Assistant Sec'y of Commerce.*

Trade Fairs, Centers

Mass Education Goal In Iran Spurs Market For Aids, Exhibitors Find

The education and training community in Iran is still relatively small, but it is important and growing—which is the basis for the current strong market demand for educational systems and software.

Thus, 49 U.S. firms responded to an opportunity to display their products at a recent exhibition sponsored by the U.S. Trade Center in Tehran. The curriculum planners, systems designers, technical training programmers, and audiovisual software producers found prospects excellent. Though substantial off-the-floor sales had not been expected, they totaled around $250,000. Exhibitors were enthusiastic about landing contracts after sufficient time back home to prepare programs and adapt them to Iran's needs and language. Sales for the next 12 months are projected at $18 million.

The Shah in 1974 decreed free education for all Iranians—resulting in a tremendous increase in workload—and the various ministries and agencies charged with mass education are discovering just what a difficult task it is. An educational systems seminar that ran concurrently with the U.S. exhibition drew an attendance of more than 200—demonstrating the interest of Iranian educators in talking over their problems with knowledgeable people.

There is very little educational technology in Iran. Consequently, instructional systems are much in demand, since Iran is desperately short of training facilities and teachers. Although price is not a factor at present, a proliferation of systems will bring about price competition in several years. Purchasers will focus on the "student unit" training cost as well as the cost of the total package. Products such as projectors for super 8 mm., and 16 mm., and video cassettes are now being affected by price, as a number of brands are competing in the market place. The U.S. has a good share of this market, but the Japanese are beginning to make a strong push toward a greater market share. They will provide continually growing competition.

Products said to have the best sales potential in Iran are: polarized transparency charts, minicomputers for instructional purposes, language laboratories, and programs dealing with industrial, career, and general education training. Products with moderate potential are: projector systems, video tape systems, audio card readers, film strips on general subjects, and school supplies.

EXPLORING NEW AIDS—*Younger people especially gathered around the McGraw-Hill Book Co. display at Educational Systems Exhibition, U.S. Trade Center, Tehran.*

Recreation Equipment Show Set For USSR Next August

An international exhibition of equipment and goods for holiday resorts and recreation, KOURORTY '76, will be held in Riga, USSR, Aug. 10-19. The exhibition will feature specialized equipment for hotels and motels, including automatic vending machines, cleaning equipment, juke boxes, air conditioning machinery; equipment for parks, beaches, and lawns—for example, pools and boats; camping equipment; and models of and technical information on hotels, recreation centers, and public services.

Interested companies should send ten copies of their catalogs to USSR Chamber of Commerce and Industry, Directorate of Foreign Exhibitions in the USSR-KOURORTY, Sokolnicheski val 1-a, Moscow 107232, USSR, attn. E. Yakovlev. For additional information call Robert B. Dollison, Bureau of East-West Trade, U.S. Department of Commerce, 202-967-4002.

March Show In Grenoble: Winter Sports Equipment

The 19th International Winter Sports Equipment Exhibition known as SIG, to be held at Grenoble, France, March 6-9, affords manufacturers of sports clothing and ski, toboggan and other items of winter sports an opportunity to expand sales in France and European countries. Open only to the trade, SIG is attended by more than 12,000 buyers of sports equipment. Those interested in details should contact French Trade Shows, 1390 Avenue of the Americas, New York, N.Y. 10019.

Merchandise, Idea Exchange Set For Swiss City in April

U.S. exhibitors are invited to participate in the Merchandise and Idea Exchange Show scheduled for Apr. 28-30 in Montreux, Switzerland. The show will be held in conjunction with the 8th International Direct Marketing and Mail Order Symposium. Application deadline is Jan. 31. Write: International Direct Marketing & Mail Order Symposium, Merchandise & Idea Exchange, P.O. Box 214, CH-8032 Zurich, Switzerland; phone, 01-53 44 22.

U.S. Houseware Products, Appliances Well Received At Paris Center Show

U.S. manufacturers of housewares and electrical appliances found a warm reception for their products during a recent exhibition at the U.S. Trade Center in Paris.

Research conducted in France had forecast a receptive market for cookware, decorative table accessories, bar equipment, and a wide range of electrical appliances. High sales potential was forecast for novel, low-priced appliances such as coffeemakers, knives, can openers, automatic steam irons, air purifiers, trash compactors, and such "deluxe" American items as blenders, mixers, hair dryers, warming trays, and ice cream makers.

Twenty-five U.S. companies exhibited a variety of houseware products and domestic appliances. Almost all of the categories forecast as having high sales potential were represented. Nearly half of the exhibiting firms were new to the French market, and used the event to seek sales agents, distributors, or licensing partners for their glassware, cookware, electrical appliances, and decorative accessories.

Because this theme was a new one for the Paris Center, the French press devoted several major news stories to the exhibition and a radio station interviewed exhibitors. Visitors, more than 1,000 in all, found an attractive presentation of equipment centered around a "model kitchen" of exhibitors' products.

All exhibitors new to the French market made good contacts with potential representatives and expect to sign agreements in the coming months. In addition, exhibitors sold $175,000 worth of equipment during the event, and projected 12-month sales attributable to the exhibition at over $4 million.

Iowa Mission Sees Substantial Sales In Mideast Area

Almost $20 million worth of construction and related equipment is expected to be sold in four Middle Eastern countries during the next 12 months by nine Iowa companies. The expected sales are the result of a just-completed trade mission—cosponsored by the Iowa Development Commission and the U.S. Department of Commerce—to Iran, Kuwait, Egypt, and the United Arab Emirates.

"About $2 million in 'firm' orders have already been placed," said Dean Arbuckle, director of the International Division of the Iowa agency and leader of the mission, "and I believe the $20 million projection for the next year is conservative." The sales projections were made by the mission members themselves. Several agency agreements were signed.

"There were several reasons for the mission's success," said Arbuckle. "A major one was the Iowans' abilities to meet the countries' needs, primarily for construction and related equipment." The equipment offered was much in demand and, with the ready availability of money by purchasers, orders were even greater than anticipated.

Trade opportunities are so great because, the mission leader said, "all four countries are involved in extensive building projects. For example, Iran has blueprinted construction in Tehran of a huge new 'city-within-a-city.'" Dubai is doubling the number of its shipping berths and an international airport is on the drawing boards, he reported. However, Egypt holds the greatest long-term potential as an Iowa customer, he pointed out, because of its development needs.

COOKING IT RIGHT—*Bruce R. Allan (left), West Bend Co. representative, discusses his firm's small appliances with potential customer at housewares show, Paris.*

U.S. Trade Center Shows Get Bicentennial Themes

A series of special Bicentennial exhibitions in U.S. Trade Centers abroad will be held this year dedicated to themes commemorating historic ties between the United States and the Trade Centers' host countries. Themes of these product exhibitions will include: at Paris, Benjamin Franklin's role in U.S.-French relations; at Sydney, the role of communications in uniting two large and distant countries; at Tehran, history of U.S. furniture manufacturing since 1776; at London, history and mutually beneficial effect of Anglo-American trade; at Tokyo, U.S.-Japanese technological cooperation; at Stockholm, Nordic countries' contributions to the U.S. pulp and paper industry.

For additional information, write: U.S. Department of Commerce District Offices, or Commerce's Bureau of International Commerce, Washington, D.C. 20230; telephone, 202-967-4705.

Georgia Sends Out Eighth 'Trade Trek,' Finds Buyers

The eighth "Georgia Trade Trek" has returned from abroad with important sales results for the state's exporters. Gov. George Busbee headed the team of six company representatives on its stop in Taipei, Taiwan; Lt. Gov. Zell Miller in Hong Kong, and Development Commissioner Louis W. Truman in Seoul, Korea.

As in previous ventures, the mission had co-sponsorship from the U.S. Department of Commerce. Products offered were tufted carpets; industrial electric motors; peanut, poultry, and pecan processing; telephone communication systems; banking, and health insurance. Exclusive of banking and insurance, reported immediate sales were $350,000 and the 12-month sales projection was $310,000.

Worldwide Business Outlook

Argentine Development Aims Delayed By Current Economic Difficulties

Argentina's economy deteriorated in 1975, and the country is facing a difficult economic crisis.

Characteristics of the present situation, as analyzed by the U.S. Embassy in Buenos Aires, include an economic slump, record inflation, a large fiscal deficit and difficult balance of payments. The industrial downturn which sharpened around mid-year has been deep and pervasive. At September's end, the cost-of-living index was increasing at an annual 258 percent rate, and continued high levels of inflation are anticipated in 1976. Balance of payments results in 1975 will be the poorest in recent years, but prospects are for an improvement in 1976.

The current economic situation is extremely complex, and easy and rapid solutions are not anticipated. In the immediate future, the outlook is for continued economic flux. Government policies are relatively moderate, and fruitful contact with the IMF is a positive development. Nevertheless, lacking political cohesion, the government is likely to continue to react to developments on an ad hoc basis. No comprehensive plan for overcoming the economic crisis has been elaborated—probably none is possible at this time. The salary issue will remain a pivotal one, and reducing the fiscal deficit will require strong measures. Intentions in the fiscal area should become clearer when Congress begins to review the 1976 budget.

With greater political stability, Argentina would be in a strong position to initiate rapid and sustained economic recovery. Its agricultural resources are excellent, and the country is largely insulated from world energy shocks. However, the political question remains a big one. While most Argentines prefer to continue under a democratic and constitutional framework, there are also strong pressures for radical change. As Argentina moves toward elections, increasing political confrontation could adversely affect economic programs. Whatever happens, developments over the next year are likely to have very important implications for Argentina's economic future.

The global investment picture remains extremely serious. In 1974, total investment increased 13.7 percent, but a large portion was due to low-cost residential construction and inventory increase. Total plant and equipment investment increased only 3.2 percent, and most of this was a result of heavy public sector investment. Private sources estimate that private plant and equipment investment dropped very substantially in 1974 following a sharp reduction in 1973. The adverse trend in private investment continued in 1975.

Most current investment activity is occurring in the public sector, although delays and financial problems are widespread. The government is emphasizing the expansion of energy production, particularly electrical energy. In the fuel sector, the State Oil Co. (YPF) has plans to make substantial investment in oil exploration and production and is seeking to initiate more intensive offshore exploration. The State Gas Co. has several pipeline projects planned or in progress. Other important public sector projects include expansion of the petrochemical industry and steel production.

Foreign investment inflows have not materialized due to several factors including restrictive laws and regulations, the terrorist threat, political instability and domestic economic problems. Nevertheless, some improvement in the local foreign investment climate is considered possible in 1976 in view of Argentina's urgent need for new foreign capital.

The foreign exchange crisis means that a large proportion of profit and royalty remittances from Argentina will be held up for some time more, and U.S. investors are likely to have to wait before their profit remittances are approved. Although the government will continue to rely on the issuance of dollar bonds to relieve this pressure, bond issues are likely to continue to be insufficient to take care of the significant backlog accumulated in prior years.

Argentine imports during the next six months or more are going to be severely restricted. This will apply particularly to capital goods imports, as Argentina will need to use its limited foreign exchange resources to pay for inputs of intermediate and primary products into factories. Even though the capital goods may be financed from overseas, reserves are at such a low point that in many cases the Central Bank cannot make available the 10 to 15 percent down payment.

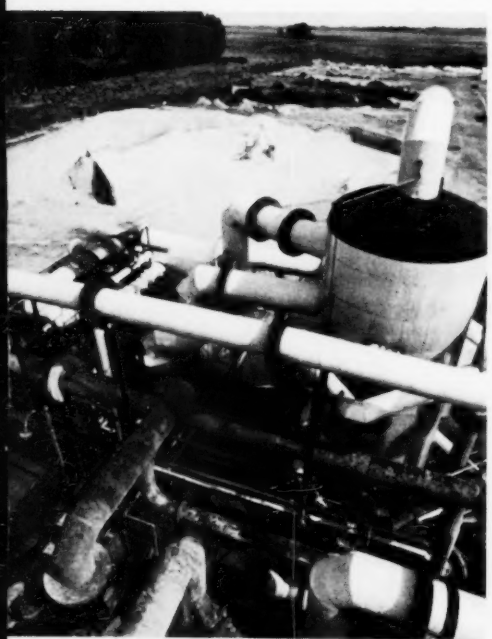
Limiting financial exposure

It is important to note that foreign Western export credit institutions, including the Export-Import Bank of the United States, have decided to limit the increase of their exposure in Argentina for the time being. Additionally, the financing terms the government now requires that its importers obtain have met with the Berne Union's disapproval, as the grace and repayment terms in many cases exceed those currently in effect in international trade. These decisions will further slow the importation of capital goods and will certainly restrain the growth of the Argentine economy.

Travel to the United States by Argentines has been and is likely to continue to be sharply curtailed by the foreign exchange shortage.

Renewal of the government's export drive will probably lead Argentine exporters to focus again on the U.S. market. The EEC reduction of Argentine beef imports will bring stronger Argentine pressures for the United States to waive or modify its sanitary regulations and permit the flow of unprocessed meat to U.S. markets. The export drive is also likely to lead to renewed interest in bilateral trade agreements by Argentina, and to making the 1973 and 1974 agreements with Eastern European countries more operative, and perhaps expanding them. This could lead to greater Eastern European penetration of the Argentine market.

The short-term outlook is therefore for continued minimal private domestic and foreign investment, low economic growth, continuation of attempts at enforcing an incomes policy oriented towards transferring income to lower income groups, foreign exchange shortages and little growth in the import market. It will be a period of "wait and see" for U.S. firms.



ARGENTINE PLANT — *Chemicals for farms in Argentina pour from the Petrosur complex. This facility, built with Inter-American Development Bank financing, produces sulfur products.*

Nicaragua Is Poised For New Surge; Project Activity Offers Opportunities

A decided recovery of export prices coupled with excellent production estimates, the beginning of a new stage in the Managua reconstruction program, and the initiation of a number of public and private development projects throughout the country indicates that 1976 will be a good economic year. The real growth rate is expected to be in the 5 to 6 percent range, according to the U.S. Embassy in Managua.

A combination of lower export prices, excessive inventories, credit restrictions, and a collapse of the reconstruction boom in early 1975, resulted in a rather sudden decrease in economic activity in Nicaragua. Revenues from consumer and excise taxes indicate a drop in sales of over 10 percent in value and at one time construction activity was down an estimated 50 percent from the 1974 peak. Still, the economy grew slightly, about 2 percent in real terms (indicating a real drop in per capita income, as population growth is 3.2 percent annually). A side benefit of the recession has been a decrease in the inflation rate from 17 percent to less than 10 percent in 1975.

In 1974, an increase in value of sugar exports and volume of meat exports offset the decline in cotton earnings, affected by decreased prices. While sugar dropped back in mid-1975 to more traditional prices, those of coffee jumped 50 percent in recent months and cotton is once again selling in foreign markets at remunerative levels.

Total export values should increase substantially in 1976 and the effect on the economy will be felt in the first quarter, during which the three crop harvests are at their peak. Futures sales have protected the producers somewhat from falling prices, particularly in sugar.

As a member of the Central American Common Market (CACM), Nicaragua trades primarily in processed agricultural products, textiles, manufactures, and chemicals with the other members. This trade has grown in importance over the years, although the balance has traditionally been negative.

Commercial bank loans are contracted in the public sector principally by the autonomous state agencies—the housing, development, and agricultural banks, the grain trading agency and the public utilities. The Central Government's development programs are basically funded by the international lending agencies (World Bank - AID - IDB - CABEI) under much more favorable terms. There is a substantial amount of these funds in the pipeline awaiting disbursement and public sector investment should expand rapidly in 1976.

Industrial activity continued to increase in 1975, despite the sales recession, with food processing, particularly sugar refining, leading the way. Manufacturing output closely related to domestic consumption, such as metal fabrication and pharmaceuticals, declined. Investment and production in the industrial sector should climb more rapidly in 1976.

U.S. firms have traditionally supplied at least one-third of Nicaragua's import needs, and with their proximity to Nicaragua, their traditional trade ties, and their excellent reputation, U.S. producers should be able to maintain or expand their market share. Despite its small economy, with a GDP of only US$1.3 billion in 1974, Nicaragua imported a total of $560 million worth of goods and services.

Improving prices and increases in output of Nicaragua's principal agricultural export products will tend to lead to increased imports of agricultural equipment and supplies. The acceleration of the modernization and mechanization of large commercial farms and ranches will provide a very good market for such products as tractors, fertilizers, irrigation equipment, breeding cattle and grain storage silos.

Construction activity, after being rather depressed for most of 1975, promises to pick up in 1976. A substantial number of public construction projects are slated to get underway shortly, and a recovery of the private economy will boost private commercial construction. Although construction activity may not approach 1974 levels, 1976 promises still substantial sales opportunities for U.S. producers of building materials and hardware. U.S. construction and engineering consultants will also find good opportunities to participate in the many AID-sponsored reconstruction programs.

Additional trade opportunities include the expected purchase of large amounts of public transportation equipment, primarily city buses, for newly decentralized Managua. Future industrial development will be concentrated in the food-processing area, where U.S. producers of food-processing machinery, such as canning, freezing, and packaging machinery, will enjoy excellent trade opportunities. Continued upgrading of the health sector and the telecommunications network, as well as the development of hydroelectric and geothermal power sources will present markets for U.S. exporters. A number of tourist projects are also in the works, and manufacturers of hotel equipment and supplies as well as hotel and restaurant franchisers should be aware of future trade opportunities.

The investment climate for American companies is excellent. The Government of Nicaragua provides a wide variety of incentives to attract foreign investment, and foreign investment is most welcome in the form of joint ventures or wholly-owned operations. Foreign investments are guaranteed equal treatment vis-a-vis locally-owned firms, and there are no exchange controls or limitations on profit remittances. All programs of the Overseas Private Investment Corporation are available to American investors in Nicaragua.

U.S. COMMERCIAL LIBRARY IN MANAGUA—*The Commercial Section of the U.S. Embassy provides numerous services. The Commercial Library is frequently visited by Nicaraguans seeking information about U.S. businesses and products.*

Newly-Independent Papua N. Guinea Aims To Attract Foreign Investment

The last 12 months have been momentous politically and economically for Papua New Guinea, reports the U.S. Embassy in Port Moresby.

Political independence came to the country Sept. 16, but a major step toward economic independence came earlier, in April, when the Papua New Guinean currency, the Kina, was introduced. Although the budget continues to depend heavily on Australian aid, new taxes are being generated within the country and a number of major export products are increasing in volume despite a fall in prices.

In FY1975 (July 1 to June 30) there was apparently a substantial fall in the level of real output as measured in terms of gross domestic product. The sharp deterioration in the terms of trade, particularly in the second half of the year, combined with a buoyant level of consumer demand, resulted in a substantial turnabout in Papua New Guinea's balance of trade position.

The most serious setback for the economy was experienced in copper exports, which account for more than half of Papua New Guinea's total. A 15 percent production cutback in volume and a sharp decline in prices reduced copper earnings to $315 million compared with $470.9 million in FY1974. Wages and salaries continued to rise rapidly, but inflation was sharply reduced from last year's 29.2 percent to 7.5 percent. Investors appear to be taking a "wait and see" attitude, with the exception of those involved in minerals and petroleum/gas exploration, which continues at a good pace.

In the near-term, economic conditions are expected to hold steady, but stringent controls on expenditure will be necessary. Business people there remain cautious and are looking for further signals by the government of its attitude toward business and investment. While government officials are heavily committed to development of infrastructure in the public sector, most recognize the need for a strong private sector and are moving to encourage it. A dramatic expansion of the economy, however, depends on a worldwide economic upturn, an improvement in primary agricultural product and copper export prices, and the development of additional investment projects.

Trade between the United States and Papua New Guinea has been quite volatile in recent years, because U.S. exports are largely dependent on major development projects such as construction of the Bougainville copper mine at Panguna, Bougainville Island. The United States will continue to sell large quantities of equipment to Bougainville Copper Ltd. in coming years, but can also expect to sharply expand trade in the late 1970s and early 1980s as other copper prospects are exploited. Three are now being proved up: one at Ok Tedi in the Star Mountains formerly held by Kennecott Copper, a second at Yandera and a third at Freida River, the latter two on the northern coast near Madang. The investment for each is estimated in the $400-600 million range.

The Purari Hydroelectric Scheme (estimated cost $650 million initially, with future investments of up to $4 billion) on the Fly River which flows into the Gulf of Papua is presently being investigated by the Governments of Papua New Guinea, Australia and Japan. If the study shows the project to be feasible, a likely prospect, U.S. machinery and equipment manufacturers should enjoy substantial purchase orders. Results of the feasibility study are expected in late 1977. The project entails construction of a major dam, a port, a town of 10,000 and factories to use the power generated.

The government also hopes to conclude an agreement with a major U.S. firm for development of a huge timber project near Vanimo on the north coast. This is expected to be a $350 million project which should also generate heavy orders for U.S. equipment. And if oil or gas is discovered (and over $100 million has been spent searching), the U.S. companies presently involved in drilling can be expected to do major purchasing in the United States.

Thus, prospects for future sales and

DOWNTOWN PORT MORESBY—*An increasing number of American businessmen may be visiting Papua New Guinea in response to efforts to create an attractive climate for foreign investment. This view looking out to the harbor awaits them.*

Special Report

Michael W. Donovan, Economic/Commercial Officer at the U.S. Embassy in Port Moresby, has prepared an article outlining specific opportunities available to American businessmen in Papua New Guinea. A copy is available from East-South Asia Division, Room 3016, U.S. Department of Commerce, Washington, D.C. 20230; ask for report A-65 of Dec. 15.

investment are excellent. The worldwide economic downturn has slowed the pace of development, but knowledgeable investors continue to view Papua New Guinea as an area of considerable interest.

The United States is presently number three after Australia and Japan in sales to Papua New Guinea. Although U.S. sales dropped from $31.3 million in FY1973 to $19.7 million in FY1974, the Embassy expects a sharp increase in FY1976. The U.S. market share, running about 6 percent, should slowly rise. Major sales categories are machinery and transport equipment, manufactured goods and chemicals. This is unlikely to change.

The chief difficulty in the sales of other types of goods, particularly consumer goods, is the lack of a direct shipping link to the Port Moresby area. Many businessmen have expressed an interest in obtaining U.S. products, especially with the high cost of consumer items and very high shipping rates from Australia. Presently, Pacific Far East Lines calls at Lae on the north coast, and at two towns, Rabaul and Kieta, on islands to the East, approximately every 20 days. Transhipment costs to the southern coast are prohibitive as there is no road connection from Lae to Port Moresby.

Once a road is opened, or should Port Moresby be added to PFEL's ports of call, U.S. businessmen can expect additional sales in what is Papua New Guinea's largest internal market, the Port Moresby area. Businessmen should be aware, however, that inexpensive consumer goods are increasingly being provided by the Chinese of Hong Kong, Singapore, and the People's Republic of China and sold locally through Chinese trading stores situated throughout Papua New Guinea.

Although the United States is only number six in terms of purchases from Papua New Guinea, it is the number one buyer of both coffee beans ($14.5 million) and cocoa beans ($9.3 million). Other figures for FY1974 show the United States trailing Japan in purchases of tuna, but the Embassy understands that much of the Japanese catch ultimately ends up in the United States. This would then make the United States the major purchaser of tuna and probably prawns as well. Thus the FY1974 Papua New Guinea figure of $19.1 million in exports to the United States may be too low by about $8 million; this would mean that Papua New Guinea increased its exports to the United States by more than 100 percent between FY1973 and FY1974.

Present U.S. investment in Papua New Guinea is miniscule apart from funds spent on minerals and gas/oil exploration. But direct investment remains the most likely area of U.S. business involvement over the next decade. An independent Papua New Guinea under Prime Minister Michael Somare's Coalition Government is making the investment climate increasingly attractive to direct foreign investment.

To aid foreign investors, the Somare Government set up the National Investment and Development Authority in late 1974; NIDA is designed to be a clearinghouse for foreign investors. Interested U.S. businessmen should contact the Director, National Investment and Development Authority, P.O. Box 2669 Konedobu, Port Moresby, Papua New Guinea, for specific information on investment guidelines and guarantees, projects, and areas of the economy in which foreign investment is sought. Further information is also obtainable from the U.S. Department of Commerce, Washington, D.C. 20230.

Areas with most potential

Areas for investment with the most potential are: 1) minerals, 2) gas/oil exploration and exploitation, 3) forestry projects, and 4) tuna fishing. There are presently about 90 prospecting permits in force throughout Papua New Guinea. Copper is, of course, the most important mineral sought, but prospectors are also looking for gold, silver, and nickel as well as gas and oil. The forestry potential for Papua New Guinea is enormous with over 70 percent of the land (Papua New Guinea is twice the size of the United Kingdom) covered by tropical hardwoods and softwoods, approximately 45 percent of which is estimated exploitable today. The tuna fishing business is in its infancy, but is already in terms of catch the third largest in the world and has good prospects for continued steady growth.

American businessmen are now involved in all these areas or engaged in negotiations for exploitation of these resources. There is room for expansion and the Government of Papua New Guinea is eager to see reputable businessmen who can bring in up-to-date technology, capital, and management expertise in exchange for a reasonable profit.

Oil Find, Rains Give Chad Hope

With over 90 percent of its work force engaged in agriculture, Chad continues to be very dependent on the weather. Heavy rains in 1975 permitted continuing recovery from the damaging drought of the early 1970s. The nation welcomed CONOCO's discovery of oil in late 1974, although further exploration has yet to tap a commercially exploitable field. A new and energetic government raises hopes for better economic planning, adds the U.S. Embassy in N'Djamena.

Chad's always precarious financial condition continued in 1975. The 1975 government budget increased somewhat over the previous year, however, and taxes remained high. The balance of payments deficit was covered by aid from abroad, especially from the International Monetary Fund and France. Other donors, including the United States and international organizations, also provided resources for development and emergency relief in the Central Africa nation.

Agricultural production is rising moderately, with the exception of gum arabic. Two major crops, millet and peanuts, continue to be consumed mostly locally, outside the cash market. The good rains are allowing some recovery of drought-reduced cattle herds. Cotton remains Chad's most important earner of foreign exchange.

Growth of Chad's industrial sector is impeded by high transport costs, the limited local market, distance from most raw materials, and the lack of sufficient electric power. About two dozen cotton gins, a brewery, a textile mill, a flour mill, a sugar refinery, two refrigerated slaughterhouses, two bottling plants, two perfume factories, several large metal and woodworking shops, and bicycle, motorcycle, and radio assembly plants comprise most of Chad's industry. Production has been rising in most areas in recent years, but the nation's industry remains characteristic of an underdeveloped economy, concentrated in the primary processing of raw materials and in assembling imported consumer goods.

Recent American involvement in industry includes the formation in 1974 of Chadian Livestock, Tanning, and Manufacturing Industries (CLITAM), for the purpose of exporting meat and hides from Sarh; and the opening in 1974 of Chad's first Coca-Cola bottling plant in N'Djamena.

The largest construction projects are in the capital, where a new mosque is being built with a $12.5 million grant from the late King Faisal of Saudi Arabia, and where the water system is being improved with a grant from the

European Development Fund. Investment capital could be used to initiate or expand production of cottonseed oil, electric power, canned fish and meat, matches and malt.

Chad's foreign trade deficit stems from the problem familiar to most less-developed countries: the lack of sufficient quantities of raw materials exports to pay for expensive manufactured goods imports.

Since two-thirds of Chad's exports go to "undetermined locations," it is difficult to discern an accurate picture of geographical patterns. This vagueness in the data is probably due to resale of Chadian cotton in France and reshipment elsewhere. But the statistics indicate that Chad's exports increased substantially in the first half of 1975, yielding a reduced balance of payments deficit. Exports to and imports from the United States showed large proportional gains, though this trade remained a minor fraction of Chad's commerce.

Effective Jan. 1, 1969, Chad withdrew from the Central African Customs and Economic Union (UDEAC), which now consists of Cameroon, the Central African Republic, Congo and Gabon. A Chad-Cameroon customs agreement went into effect on Jan. 1, 1971, allowing bilateral trade to return to its pre-1969 level. Chad and Zaire form the Central African Economic Union (UEAC), but except for declining Chadian exports of chilled meat carcasses to Zaire, there has been little trade between the two countries. Since the change of government in April 1975, Chad has apparently been moving toward rejoining UDEAC.

The Chadian economy is small and weak. Its population of about four million is spread over an area twice the size of Texas, although rather concentrated in the south; and the gross national product is around $80 per capita. Transportation to and from the outside world and within the country is very expensive and sometimes risky. Furthermore, Chad gives a tariff advantage to members of the European Economic Community. Consumers of imported goods turn by habit to French products, and most importing firms are owned and operated by Europeans. Despite all these factors, however, Chadian imports from the United States are continuing the upward trend of the early seventies. American products dominate the Chadian market in a few areas, notably earth-moving equipment, outboard motors, air-conditioners, and cotton processing machinery.

Chad has demonstrated its desire to attract private foreign investments. The new military government has announced no intention of abrogating Chad's Investment Guaranty Agreement with the United States, nor of changing the existing liberal tax and customs concessions to private investors. Opportunities for profitable investment may lie in processing and exporting cotton, meat, and hides, in developing tourism, and with more risk, in improving transportation and in searching for minerals.

The entire economic scene in Chad would be transformed by the discovery of a commercially exploitable oil field. But it remains to be seen whether Chad has enough petroleum even for its own needs, and in early 1976 the prospect of joining the petroleum exporters is still only a dream.

Yemen Is Increasingly Favorable Site For Establishing Business Enterprises

Although it is not one of the region's oil exporting countries, the Yemen Arab Republic is a country well worth serious investigation by those American firms seeking to trade or invest in the Middle East.

Largely isolated from the outside world before 1970, the Yemen is far more than a picturesque country of magnificent traditional architecture and impressive archaeological sites. For today's American businessman, the Yemen can be characterized as both an untapped market for most varieties of consumer and industrial goods and as an increasingly favorable site for establishing light manufacturing, agricultural schemes, or other investment enterprises.

Four points are emphasized by the U.S. Embassy in Sana in this discussion of the Yemen's marketing and investment potential. First, the Yemen's population of 6.7 million accounts for more than half of the estimated population of the Arabian Peninsula. Second, the Yemen occupies some of the best agricultural land in the Middle East which, with the proper development of water resources, should have important implications for certain types of agribusiness. Third, despite its present lack of an income from petroleum, the country's economy nonetheless enjoys a modest balance of payments surplus and stable currency as the result of both generous foreign aid allocations by western and Arab States and the almost $1 million a day in income remitted by the 1.5 million Yemenis working in Saudi Arabia, the Gulf and the United States. Fourth, under the leadership of an astute, western-oriented government, the Yemen has over the past year and a half seriously attempted to overcome the challenges of economic development through the promulgation of the country's first Three-Year National Development Plan (1975-77) and through a further liberalization of the concessions provided by the new investment law. Following is a brief synopsis of the main provisions of this investment law, which was formally enacted in August.

The 1975 Law Number 18 on Investment guarantees freedom of investment for both Yemeni and foreign nationals. Confiscation or nationalization of investments is specifically prohibited under the law without payment of just compensation to owners with provision for the repatriation of the foreign capital investment abroad. Although the law stipulates that Yemeni employees should be afforded training opportunities to eventually replace expatriate personnel as they become qualified, no specific ratio of foreign to Yemeni personnel is mentioned.

Three types of investments are noted by Law Number 18—national capital investments, foreign capital investments, and joint capital investments. National capital investments are those in which domestic capital constitutes 90 percent or more of a given project's capital. Foreign capital investments refer to those projects in which foreign capital constitutes 90 percent or more of the overall capital, while a mixed or joint investment project is one whose foreign capital input is more than 10 percent but less than 90 percent of the total.

Minimum investment levels

These delineations are important with regard to determining the investment minimums required by a company to qualify for the concessions and guarantees offered by Law Number 18. These investment minimums are described below:

Industrial Investments—The cost of equipment and machinery, exclusive of land and buildings, should not be less than Yrls. (Yemeni rials) 250,000 (Yrls. 4.5 = US$1) or its equivalent for a national capital project, $250,000 or its equivalent for a foreign capital project, or $125,000 for a joint capital investment.

Animal Resources Projects—The cost of the assets, equipment, and machinery—excluding land—should not be less than Yrls. 500,000 in the case of a national capital project, $1 million or its equivalent for a foreign capital project or $500,000 for a joint capital project.

Tourism Capital Projects—The capital cost employed in the project, excluding the cost of land, should not be less than Yrls. 5 million in the case of a national capital project, $5 million or its equivalent for a foreign capital project, $1.5 million or its equivalent for a joint capital project.

Projects which have been issued investment permits by the Ministry of Economy will be eligible for the follow-

ing customs exemptions and concessions: a five-year exemption from payment of customs duties and import charges for all machinery, equipment, spare parts and—in the case of tourism projects—building materials, which may be extended for up to three additional years with the approval of the Council of Ministers; a 25 percent (c.i.f.) reduction of all taxes, customs duties, and import fees on all raw and primary products used or produced by a project for a period of five years—the Investment Exemption Committee (chaired by the Minister of Economy) will determine the products included in this concession as well as the amount of the reduction itself; with the approval of the Investment Exemptions Committee, industrial projects may be further exempted from all export taxes and production duties.

American companies wishing to consider investment in the Yemen Arab Republic should contact the Ministry of Economy directly at the following address: Mr. Ali al-Bahr, Undersecretary, Ministry of Economy, P.O. Box 607, Sana, Yemen Arab Republic.

The Ministry will assist interested firms in obtaining appropriate authorization from Yemeni Government ministries or departments responsible for development projects in a particular economic sector. Before an investment will be approved by the Investment Committee, it will have to demonstrate that it will contribute to the Yemeni economy; that the project will employ modern administrative and production techniques; that it is supported by both a clear investment plan and production program; that it is based on a feasibility study underscoring the project's prospective economic viability; and that it will make every effort to employ the largest possible number of Yemeni administrative and technical personnel.

Five broad areas of the Yemeni economy are of particular interest in terms of investment opportunities. These include projects to develop the basic transportation and economic infrastructure; agribusiness; light industry investment; mining and minerals; and tourism. For the full report on which this article is based, which lists specific investment opportunities and the addresses of offices to contact for further information, write Commerce Action Group for the Near East, Bureau of International Commerce, Room 3200, U.S. Department of Commerce, Washington, D.C. 20230. phone 202-967-5767. The report is titled, *The Investment Outlook for American Firms in the Yemen Arab Republic.*

American businessmen may also contact the American Embassy in Sana for further assistance; write Economic/Commercial Officer, American Embassy, P.O. Box 1088, Sana, Yemen Arab Republic.

Cameroon Boasts Stability, Growth, Regional Access

This is the final year of Cameroon's Third Five-Year Plan, and the government is in the process of reviewing its progress and preparing for the next plan. President Ahidjo has been re-elected to a fourth term in office and the government is stable with substantial depth both in the quality and quantity of its personnel. There are no serious internal problems economically or socially and the government's policy of "planned liberalism" continues to attract substantial foreign investment while attaining its domestic objectives of political, economic and social development.

Cameroon has much to be proud of in its economic development, continues the U.S. Embassy in Yaounde. While not blessed with a mineral resource capable of supporting the economy, the West Africa nation has developed and diversified agriculture as its primary export sector, while developing light industry. With more than 80 percent of its energy needs supplied by hydroelectric power, Cameroon has successfully continued its development in spite of price increases in petroleum and petroleum-related imports. Cocoa and coffee production (accounting for 55-60 percent of total export earnings) is being expanded with increased emphasis on quality control. Cameroon's massive timber resources are being opened up and have great potential for investment and equipment sales.

Recent petroleum exploration indicates commercially exploitable deposits, but the quantity of reserves has not yet been determined. Should reserves justify it, a refinery and deep water port for petroleum and other mineral resource exports is being planned.

While price fluctuations for cocoa, coffee and timber seriously affect Cameroon's trade and payments balances, continuing efforts toward world market price stabilization for basic commodities, if successful, should provide a firm base for Cameroon's planning and development.

Agribusiness, timber, mining, light industry, assembly plants—these are the main opportunities at present for U.S. investment and sales. The government's primary emphasis for private investment is on agribusiness. Rice, corn and livestock are the best possibilities for straight agricultural investment projects. Processing of agricultural products (such as tomatoes and other vegetables), pineapple plantations, dairy farms, a facility for the production of instant coffee, cocoa processing, meat packing, avocado production for consumption and as a source of oil used in cosmetics, production of various vegetable oils and gums

CAMEROON'S PRESIDENT—*President Ahmadou Ahidjo looks at a map of his country with executives of Lenkurt Electric Co., Inc., in San Carlos, Calif. The U.S. firm provided equipment for the first microwave network constructed in Cameroon.*

used in processing—all of these are possible projects for which the government is seeking foreign investment with subsequent equipment sales.

Timber reserves in Cameroon are quite good and, with the resurgence of the timber market, should provide an excellent opportunity for investment and/or sales of equipment. Light industry assembly plants for consumer goods can take advantage of Cameroon's labor force, which is generally good but lacks sufficient jobs. In addition, Cameroon's membership in the UDEAC customs union offers a four (potentially five) country market, and privileged access to the European Common Market under the Lome Convention.

In general, U.S. manufacturers have tended to rely on their European affiliates to serve as their agents in Africa. When the markets in Africa were small, this procedure was logical. But now with the significant expansion of the markets, more American firms should be willing to deal direct. Cameroon has a stable government and offers a favorable climate for U.S. investment in facilities which could service west and central Africa. American prices for many products are now lower than European, and American products are respected for quality. It is the lack of local establishments that know the markets and can provide after-sales service which has limited U.S. sales to this growing market area. In addition to items listed above, highly technical equipment (communications and aircraft), roadbuilding equipment, transport equipment, and engineering services and plant installations also provide potential for significant sales of U.S. products.

Cameroon offers substantial advantages to foreign investors in its areas of emphasis. Tax exemption and various types of government guarantees are given to foreign investors in order to attract them to Cameroon. The government may participate in the equity of a new venture, but usually assigns management control to the private partner. Investors desiring to set up projects are required to submit studies of their proposals and may be asked to do a feasibility survey if the product is new to the country. Foreign investors in Cameroon have been well treated, and the government has always honored its commitments.

An investment guaranty agreement has existed between Cameroon and the United States since 1967. Several American companies have taken out OPIC insurance for their investments and no claims have been filed to date. To facilitate American interest in Cameroon, an economic office operating within the Cameroonian Embassy in Washington was opened in 1973 and readily provides investment and business information.

Jamaica Again Faces Old Problems: Deficits, Inflation, Declining Output

Although the 1974 economic situation temporarily improved compared with 1973, by 1975 Jamaica again faced its old problems of an expanding trade deficit, inflation, declining production, balance of payments deficits, etc. GDP in 1974 increased by 31 percent in current terms, but in real terms the growth rate was probably closer to 3-4 percent, reports the U.S. Embassy in Kingston. Final figures for 1975 may show a negative growth rate because of the effects of the U.S. recession, falling production of major exports, a decline in tourism, and the stagnation of the private sector due to shortage of materials, inflation, and uncertainty concerning the policies of the present government. Most of the trends observed in 1975 are expected to continue at least through the first half of 1976.

Despite higher export prices, the 1975 trade deficit expanded and was 40 percent higher for the first 7 months compared with the 1974 period. In January-July 1975, exports totalled J$488.9 million (J$1 = US$1.10), and imports J$611.5 million for a deficit of J$122.6 million. Compared with the same 1974 period, exports increased by 26 percent; but the improvement simply reflects higher prices for Jamaica's main exports—bauxite, alumina, sugar and bananas. Imports increased by 28.5 percent, and the July figure represents 68 percent of the entire year's allocation of J$900 million. Imports of machinery and transport equipment increased by 52 percent, and manufactured goods by 22.9 percent; food imports totalled J$110.9 million, and imports of fuels and chemicals increased by J$20.6 million and J$22.4 million, respectively, over the comparable period. Much of the increase reflects price increases, but it also is evidence of the stagnation in local manufacturing and the country's high propensity to consume.

Downward production trend

In 1975, production of all of Jamaica's major exports declined. Bauxite production for January-August was down 18.9 percent over the same period in 1974; alumina production fell by 11.8 percent as the industry was affected by lack of demand in the United States and labor unrest locally. Sugar production for January-August was 11,500 tons, or 3 percent less than 1974. Banana production was 49,300 tons, down from 55,000 tons through August 1974. Cement production improved slightly in the first 8 months, but the output was 10 percent less in August than July, and the same pattern exists for steel. The output of diesel and fuel oils for the first 8 months was 16.8 percent below the level in the same period of the preceding year. Despite new incentives announced by the government to stimulate production, it was not expected to reach 1974 levels.

The U.S. recession has curtailed tourism to Jamaica. Although the number of total visitors for the January-June 1975 period increased 5 percent, expenditures for the same period were down by 7.5 percent—from J$75 million to J$69.6 million for the comparable 1974 period. The larger numbers reflect an increase in cruise passengers, but stopover visitors for the first 6 months declined by 9.5 percent. As a result, there have been an unusually large number of hotel closures, some have not reopened, and the industry is burdened by overcapacity. The government has purchased some of the large convention center hotels and has reopened them under new management.

Slower rate of increase

The cost of living has continued to climb but at a slower rate. In 1974 it peaked at 27 percent in urban and 32 percent in rural areas. However, on an end-of-period basis, for the first 8 months of 1975 it increased 11.9 percent compared with 17.3 percent in the same period in 1974. Contributing to the situation are steadily escalating wage rates. In 1974, 80 percent of wage settlements provided increases between 30-60 percent, and 9 percent gave increases of 70-90 percent. In 1975, most of the settlements have been in the latter category. In addition, the government has implemented a minimum wage of J$20 for a 40-hour week for all workers. The money supply increased by 23.2 percent in 1974, and implementation of higher wage rates in 1975 placed more inflationary pressure on an already stagnant economy.

The balance of payments situation is comparable to that of 1973, despite a remarkable turnaround in 1974. The 1975 current account deficit was estimated to be J$224 million, with an overall deficit of J$41 million. The traditional trade and current account deficits have been financed mainly by private and official long-term capital inflows. As private capital inflows declined, the government has sought to fill the gap by borrowing mainly from private sources on increasingly shorter terms. One of the richer LDCs, Jamaica does not qualify for concessional loans and has increasingly relied on commercial borrowing which has caused a change in

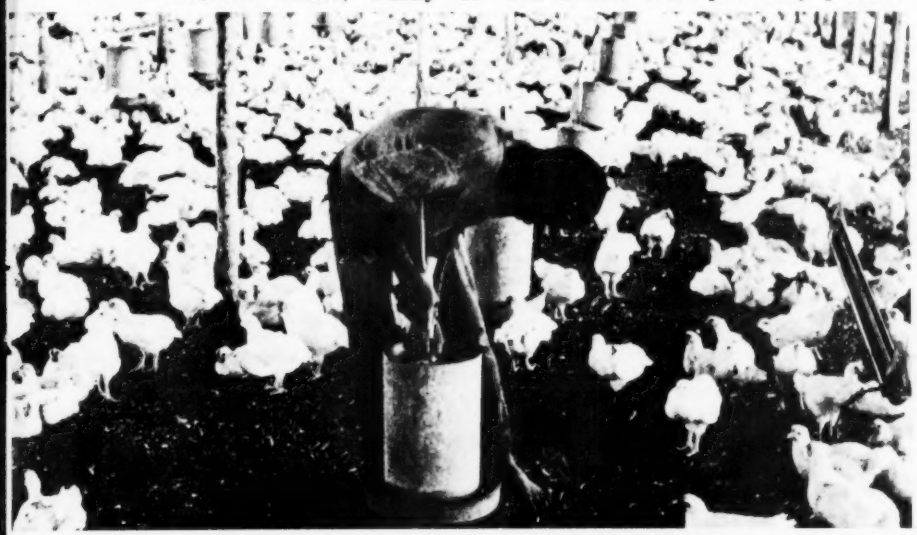
the external debt structure as well as higher debt service payments. Total net debt at the end of September 1975 was J$707.4 million, or 30.8 percent higher than in 1974.

To deal with the difficult economic situation, Prime Minister Manley announced an "anti-inflation package" which continued and strengthened previously announced controls on prices, imports, foreign exchange, rent controls in selected areas, additional incentives to the private sector, and the new minimum wage. Despite a call for consensus, the government has been unable to dispel the unease felt by the private sector or obtain agreement on wage guidelines. The stagnation of the private sector is reflected in low productivity, poor export performance, idle resources, and little or no local or foreign investment.

Little improvement can be expected in the bauxite or tourist sectors until the economic situation in the United States improves substantially. The outlook is also clouded by falling sugar prices and production. Controls announced in the Prime Minister's anti-inflation package will be continued, and the investment climate will remain uncertain. Other economic constraints are a 20 percent unemployment rate, low productivity, a high birth rate (26 per thousand) and lack of managerial and technical skills. The economic stagnation evident in 1975 is likely to continue through at least the first half of 1976 and possibly longer, depending on external economic recovery.

Despite Commonwealth preferences, in recent years the U.S. share of the Jamaican market has been about 40-43 percent, mainly because of geography and Jamaican preferences for American products. In 1974, the U.S. share of the market was 40 percent and U.S. imports totalled US$336.5 million, mainly in capital goods. With the phasing out of the Preferential Tariff on Jan. 1, the United States will be able to compete on an equal basis with other suppliers, and under ordinary conditions should be able to increase its share of the market. However, the deterioration in the Jamaican economic situation has required steadily growing import restrictions which will continue to curtail U.S. exports of machinery and capital goods. Even though the Embassy's commercial program has concentrated on Jamaican development requirements, import restrictions are being felt in these areas as well, and the United States is, therefore, unlikely to be able to increase its share of the market in the next year or so.

The investment climate remains uncertain for a variety of reasons, including the U.S. recession, and the unresolved negotiations between the government and the bauxite industry. The local business community remains concerned about the extent of the government's role, or the parameters of the "mixed economy." The Jamaicanization program begun under the previous government has been accelerated, and the government has purchased control of the telephone company, bus company, and public power company. Work permits remain difficult to obtain. Prime Minister Manley must stand for re-election by February 1977, but the above policies are expected to continue.



IADB PROJECT IN JAMAICA—*This chicken raising operation is one of a large number of projects financed with help from the Inter-American Development Bank.*

Mexico Prospects For Shoe Machinery Sales Described

Mexico offers U.S. manufacturers good opportunities for increased machinery and equipment sales to its shoe and tannery industries, centered mainly in Leon. Large shoe manufacturers already use a substantial amount of U.S. machinery and tanners could potentially purchase a greater amount of U.S. equipment if U.S. sources would match European price and financing terms. However, continued growth of U.S. equipment exports to meet Mexican shoe industry needs is dependent on easy shoe import access to the U.S. market—presently challenged by U.S. shoe manufacturers.

A copy of a 4-page report, "Shoe Industry of Leon," DIB 75-12-004, prepared by the U.S. Consulate in Guadalajara, may be purchased for $3.50 through NTIS, U.S. Department of Commerce, P.O. Box 1553, Springfield, Va. 22151.

Egyptian Study Lists Projects Where U.S. Can Participate

The Egyptian Ministry of Industry and Mining has prepared a study of possible areas of cooperation with U.S. industry. The study was presented to the U.S. members of the U.S.-Egyptian Joint Commission for dissemination among American firms interested in joint ventures in Egypt.

The Egyptians are seeking the participation of U.S. firms in the following projects: sugar beet processing; pulp and paper complex; kraft linear paper; fine wrapping paper; manila and manifold paper; production of corrugated medium paper; production of sodium carbonate; transparent flat glass sheet; wire rod mill; semi-integrated electric steel plant for reinforcing rods; special steel; railway goods' wagons; heavy trucks and buses; agricultural tractors; and passenger cars. Prefeasibility studies have been prepared for the pulp and paper complex, the wire rod mill, and the special steel project.

The Ministry of Industry and Mining study provides comprehensive data on each project including current capacity and demand, and delineates the size of the project and, in some cases, the type of technology desired. Business persons interested in these projects can view this document in the Business Facilitation Unit of the Commerce Action Group for the Near East, Room 3015, U.S. Department of Commerce, Washington, D.C. 20230.

Venezuelan Event Will Feature Industrial Instruments, Controls

The Venezuelan Assn. of Electrical and Mechanical Engineers, a chapter of the Venezuelan College of Engineers, will hold an exhibition in conjunction with its first Symposium on Instrumentation and Controls at the Caracas Hilton Hotel March 13-18. Contact "Organizing Committee," I Symposium of Instrumentation and Control, AVIEM—Apartado 6255 Carmelitas, Caracas 101, Venezuela. Telephone 55-7349 and 55-7950.

International Business Reports

Principles and Techniques in Exporting. Fifth edition. Published by the International Trade Club of Chicago. $15.
This practical manual on exporting procedures follows a case history approach to the exporting activities of the fictitious Gro-Mor, Inc. The table of contents includes international market development, order processing and expediting, U.S. Government services, agricultural exports, international banking services, various export trade support services, containerization and international mail. Part II offers complete documentation forms.

Write: International Trade Club of Chicago, 310 South Michigan Ave., Chicago, Ill. 60604.

A Technical Review of the Nicaraguan Building Regulatory System. By Richard N. Wright and Atilano Lamana, under the auspices of the Organization of American States and U.S. Agency for International Development. 80pp. $1.45.
Presents an overview of the building regulatory system in Nicaragua, emphasizing its activities in review of designs, issuance of building permits, inspection of construction, control of quality of materials, and issuance of occupancy permits. Recommendations address the status and development of this system and its technical bases.

Write: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Oil: The Making of a New Economic Order. By Luis Vallenilla. 302pp. $16.95.
Documents the course of oil development, production and distribution with emphasis on the petroleum industry in Venezuela and other oil exporting countries. Tracing the history of the Venezuelan oil industry from its beginnings to the present day, the author relates this history to the oil crisis and other international events, speaking from the viewpoint of petroleum exporting nations.

Write: McGraw-Hill Book Co., 1221 Avenue of the Americas, New York, N.Y. 10020.

Exporter's Financial and Marketing Handbook. Second Edition. By Claude M. Jonnard. 308pp. $18.
According to the publishers, this new edition is offered as a basic methods manual to business persons and students of international trade. It provides background and fundamental guidelines for successful development and effective financial management of overseas sales enterprises.

Its scope ranges from detailed analyses of export operations to the complex subject of overseas manufacturing arrangements and distribution channels. May help the managements of small and medium-size companies by furnishing conceptual and practical essentials for development, growth and maintenance of a sound export business.

Divided into 14 chapters plus appendix in 2 parts. Each chapter stresses a particular subject of concern to the practicing international business executive.

Write: Noyes Data Corp., Mill Rd. at Grand Ave., Park Ridge, N.J. 07656.

International Trade 1974/75. Published by the General Agreement on Tariffs and Trade. 210pp. plus appendix. $11.
Discussion of main trends in international trade is followed by analyses of trade in commodities, of industrial and non-industrial areas, and of the "Eastern trading area." Closing date for data was Aug. 15.

Write: UNIPUB, Inc., P.O. Box 433, New York, N.Y. 10016.

Brazil: A Study in Development Progress. By Stefan H. Robock. 204pp. $14.
This is the fourth in a series of books designed to explain how certain developing nations have been able to achieve and sustain high rates of economic growth with resulting improvements in the real incomes of their people. This study of Brazil's development provides insights into factors responsible for the economic growth and improved living standards of the country.

The first three books in the series were published by and are available from the National Planning Assn., 1606 New Hampshire Ave., NW., Washington, D.C. They are *Central American Regional Integration and Economic Development; Mexican Economic Development: The Roots of Rapid Growth;* and *Tales of Two City-States: The Development Progress of Hong Kong and Singapore.*

Write: D.C. Heath and Co., Lexington Book Div., 125 Spring St., Lexington, Mass. 02173.

Nordisk Handelskalender (The Key to Scandinavia). 1975-76, 72nd edition. Copenhagen. 1,126pp. $33.
Lists some 135,000 addresses of business firms in Norway, Finland, Denmark, Sweden and Iceland, covering 2,000 lines of business and groups of goods. All headings are printed in English and German in addition to the local language. Also contains data showing trade of the Northern countries with other countries and foreign trade by product categories, as well as background economic information for the Northern countries.

Write: Nordisk Handelskalender, 15, Egegardsvej, 2610 Redovre, Copenhagen Denmark.

Calendar For World Traders

Jan. 21 — Mishawaka, Ind. — Michiana World Trade Club dinner meeting, Kaste Restaurant. Richard D. Loretta, Senior Vice President-Int'l, Clark Equipment Credit Corp., will discuss Exports—One Key to Economic Health.

Jan. 21—New York—Int'l Executives Assn. luncheon meeting, Summit Hotel.

Jan. 22—Seattle—Port of Seattle seminar, Hilton Hotel. Presented by Chamber of Commerce, World Trade Club.

Jan. 27—New York—Int'l Study and Research Institute, Inc. luncheon, Harvard Club. Tilford Gaines, Senior Vice President, Manufacturers Hanover Trust Co., will discuss U.S. Balance of Payments and Position of the Dollar.

Jan. 28-30—Ann Arbor—Seminar on Operating in Latin America. Sponsor: University of Michigan Graduate School of Business Administration. For information, 313-763-1387.

Jan. 29-30—New York—World Trade Institute seminar on International Antitrust and Trade Related Problems.

Feb. 2-6—Chicago—World Fair for Technology Exchange, Holiday Inn-O'Hare/Kennedy Convention Complex. For information, Dr. Dvorkovitz & Assoc., 904-677-7033.

Feb. 3—New York—FCIB Roundtable Conference on Int'l Finance, Credit, Collection and Exchange Problems luncheon meeting, Summit Hotel.

Feb. 5—Cleveland—Export/Import Seminar—Developments & Financing, Bond Court Hotel. For information, Cleveland World Trade Assn., 216-621-3300 ext. 244.

Feb. 11—New York—American Management Assns. seminar on U.S.-Cuba trade. Arthur T. Downey, Deputy Asst. Secretary of Commerce for East-West Trade, will speak.

Feb. 11—New York—FCIB Publishers Export Credit Group luncheon meeting, Summit Hotel.

Feb. 17—New York—FCIB Hardware-Automotive & Allied Trades Group luncheon meeting, Summit Hotel.

Worldwide Business Opportunities

International trade specialists in the Department of Commerce and Foreign Service Officers in the U.S. Embassies and Consulates around the world are continually developing specific commercial opportunities through which American companies can find buyers, agents, partners or investors abroad. One of the major means for communicating these opportunities promptly and accurately to the U.S. business community is through the columns of this magazine.

The section that follows presents details about licensing and joint venture proposals, opportunities to sell to foreign enterprises and appoint agents, and details on major construction and expansion projects.

Licensing, Investment Abroad

1499—NIGERIA—Seeks foreign collaborator to develop **bitumen processing plant** near Okitipupa. Neither feasibility study nor a detailed geological survey have been completed, but bitumen deposits reported to be in area. Geological survey being carried out by University of Ife, Department of Geology. Mr. M. S. Adigun, Permanent Secretary, Ministry of Industries, Agodi, Ibadan. P-76019. OPIC.

1500, 1600—NIGERIA — Recently established **engineering/construction company** seeks U.S. joint venture partner. Principal of company worked for two engineering/construction companies prior to establishing own firm. Mr. A. O. Dina, Chairman, Adold Engineering Co. Ltd., c/o Maryland Hotel, Box 34, Ikeja, Lagos. P-76032. OPIC.

2400—INDONESIA—Interested in joint venture to establish **wood processing plant.** Products would be exported. Presently carries out logging operations in South Kalimantan. Seeks technical, management and marketing know-how as well as capital. Offers land for the plant site and raw material from its forestry concession. P. T. Alamindo Jaya, J1. Gandaria I/60, Kebayoran Baru, Jakarta Selatan. WTDR. P-76021. OPIC.

2851—GERMANY — Seeks licenses to **produce new products in paint and allied products field.** Manufactures paints and construction chemicals and distributes these products plus machines and tools for construction trades. Established in 1966, company has 14 employees and $800,000 in annual sales. Dr. Hans-Joachim Bode, Bode Moers GmbH, 4130 Moers, Uerdinger Str. 48. P-76010.

2873—NICARAGUA — Group of large scale cotton farmers seeks joint venture with U.S. firm to establish **organic fertilizer plant** to produce 100,000 tons annually with good opportunities for future expansion. Estimated 75,000 to 100,000 tons of raw materials available annually including animal and meat packing plant waste, and residues of cotton, tobacco, sugar and rice production. Some imports of nitrates and phosphoric acid may be required. Certain investment incentives may be available such as duty-free importation of raw material and capital equipment and exemption from income taxes for up to 10 years. The farmers would be willing to invest up to approximately $450,000 and would expect U.S. partner to contribute some equity as well as being responsible for building and operating plant. Ing. Daniel Ramirez Gonzalez, Avenida 16 de Julio, frente al INSS, Leon. P-76020. OPIC.

3296—BELGIUM — Retailer of **building insulating materials** seeks joint venture with American firm for production of products complementary to its present line. Mr. Delberghe, Manager, Entreprises de Couvertures Asphaltiques, rue du Roitelet 137, 7700 Mouscron. P-76030.

3312—GERMANY—Medium-size fabricator of non-electrical wire products seeks licensing arrangements to produce **specialty wire-based products** to fully realize plant capacity and expand product mix. Company's existing line concentrates on non-electrical structural products and components formed from iron and steel wire and rods. Current production includes plastic-coated, nickel and chrome-plated, and scintered stock. Particularly interested in producing parts for domestic appliances, kitchen and office furniture, hospital equipment, brackets, etc. Herr Rudolf Muck, Muck & Benzino Drahtwerk, 679 Landstuhl, Schliessfach 41. P-76008.

3399—UNITED KINGDOM — Manufacturer of **metal powders,** mainly in aluminum and zinc, is interested in extending its range of powder products by manufacture under license from a U.S. company. Firm interested in "downstream" processes using its existing products of aluminum and magnesium powders and zinc oxide. Operates foundry manufacturing centrifugally ferrous and non-ferrous castings and continually extruded iron bar and sections. Established 1943, has 171 employees and 5 salespersons. Mr. J. Patterson, Managing Director, Metals & Alloys (Birmingham) Ltd., Minworth, Sutton Coldfield, West Midlands B76 8AF, England. P-76004.

3440—GERMANY—Firm seeks technical know-how and licensing arrangements to manufacture **metal fabricated goods** for use in household, e.g., laundry dryers; and other types of medium-sized metal fabricated goods, e.g., playground equipment, sports equipment, etc. Specializes in production of metal parts for automotive industry. In recent years production line has been diversified to include metal goods for household and recreational use. Employs 70. Herr Hans Lindner, Lindner Maschinen & Werkzeugbau K.G., D-3501 Kassel-Niesetal, Ludwig Raabe Strasse 7. Telephone: 0561-5 22017, Telex: 99693. P-76007.

3443—FRANCE—Seeks license to produce **air cooling towers for water.** Presently manufactures air-conditioning equipment; markets in Belgium and France.Employs 44, reports annual sales of $3 million. Mr. Boutry, Manager, Societe BECAIR, 18 rue Dupuytren, 59000 Lille. Telex: ONDULYS 820471, Telephone: 50-48-51. P-76017.

3531 — AUSTRALIA — Manufacturer of sand blasting equipment desires to expand present line. Firm seeks licensing agreement with U.S. concern to build **blast rooms and produce wheel machines.** Representative will be in U.S. April-May. Mr. G. R. Williams, Managing Director, Burwel Abrasive Equipment Co. Pty. Ltd., 8 Pilcher St., Enfield, NSW 2136. P-76013.

3541 — GERMANY — Seeks licenses to manufacture **sharpening-honing machines for metalworking machine tools.** Presently makes automatic, high capacity sharpening machines for band and circular wood saws, planing knife and cutter grinding machines, bandsaw setting and filing machines and other machine tools for maintenance of woodworking machinery. Diversification into similar equipment for metalworking machine tools desired. Separate branch of firm produces hydraulic tools, cylinders and industrial controls for conveying systems. Established 1921, employs 90. Well managed, financially sound. Herr Otto Ohnmacht, Metallwerke Speyer Kraus & Voelkel, 6720 Speyer, Franz-Kirrmeierstr. 17. P-76028.

3542 — FRANCE — Recently established firm seeks license to manufacture **guillotine shearing machines.** Presently produces mechanical equipment and machine tools; employs 12. Mr. Jean Rousselin, Chairman and General Manager, Ets. Jouanel S.A., 46, rue Bronzac, 94240 L'Hay Les Roses. P-76022.

3545, 3843 — SWITZERLAND — Well-established manufacturer of industrial abrasives, brushes, and abrasive chemicals seeks to diversify and further expand manufacturing rights and licenses from U.S. firms in following fields: **brushes, disks, tips (for drills, "etc.")** and similar items made from metal, ceramic materials, sisal and cotton for abrasive and polishing application and **specialty brushes, etc. for dental applications.** Established in 1932, employs 100. Mr. A. Colelough, Jr., ALCO SA, Avenue de la Concorde 18, 1022 Chavannes. P-76001.

3547 — GERMANY — Seeks licenses to produce **hot and cold rolling mill machinery and other rolling mill equipment.** Interests include tube mill machinery, saws and sawing machines, circular cut off saws, abrasive wheel saws and other metal cutting type machine tools. Presently manufactures and markets fiberglass flanges, rolling mill machinery and dust collection systems. Employs 80, operates modern plant. Young and progressive firm. Herr Van Erp, Owner/Manager, Van Erp Industriebau GmbH, 18 Rheinpreussenstr., 413 Moers. P-76025.

3564—SPAIN—Seeks licenses to manufacture **medium and high pressure axial fans with diameters of over one meter for industrial, mining, marine, roof ventilation and other uses.** Also interested in production of **grease filters, dust filters and air purification equipment.** Prepared to pay royalties, possibly purchase certain parts from U.S. licensor. Currently makes and distributes axial and centrifugal fans, filters, purification chambers

and cyclones. Also installs ventilation, heating, refrigeration, air-conditioning and pneumatic conveying units. In process of expanding product line. Employs 75, operates well equipped facilities at Barcelona. Mr. Felix Fernandez Gonzalez, Director of the International Department, Conau, S.A., Antonio Arias 7, Madrid 9. Telephone: 91/273-0440. WTDR. P-76024.

3573 — BELGIUM — Industrial adviser seeks to develop licensing or joint venture arrangements between American and European firms in fields of **electronic computing and telecommunications equipment.** Area covered would include all of Western Europe. Mr. George S. Mauksch, Chaussee de Vleurgat, 242, 1050 Brussels. Telephone: 02/648.52.71. P-76033.

3573—GERMANY—Interested in licensing **software packages for commercial, banking and scientific purposes from American computer programming firms.** Presently engaged in the design and programming of data processing systems. Wants to expand its computer services program. Has 35 employees, sound reputation. Fr. Schulz, AS Datenverarbeitung GmbH, Mechtildisstrasse 1, 5000 Koeln 1. P-76016.

3589—JAPAN—Seeks licenses to manufacture **waste water treatment equipment especially for food processing plants.** Particularly interested in acquiring unique, advanced technology from experienced U.S. companies. Major producer of industrial air-conditioners and chemical products. Operates branch offices in major Japanese cities and has plants in four locations in Western Japan. Has around 6,200 employees and annual sales of $300 million. Mr. Yutaka Kodama, Manager, First Environmental Technology Department Section, Daikin Kogyo Co., Ltd., 700-1, Hitotsuya, Settsu City, Osaka 564. P-76006.

3600—AUSTRIA—Seeks licenses to manufacture products **involving electronic and mechanical engineering, particularly in fields of industrial process controls, pollution controls and data processing.** Also interested in agency/distributor agreements with U.S. producers of control and test instruments, microprocessors and environmental protection products. Also interested in providing engineering and maintenance services to American manufacturers of electronic equipment preparing to install their products in Austria and Eastern Europe. Will also consider cross licensing agreements in areas of electronic controls, lacquered wires and optical instruments. Located in Graz, specializes in design and manufacture of electronic instrumentation and equipment and systems engineering. Ample room for expansion and firm's plant is located near major transportation facilities. Dipl. Ing. Peter Erlach, Managing Partner, GESEMA-Gesellschaft fuer Elektronische und Mechanische Anlagen m.b.h., Puchstrasse 41, A-8020 Graz. Further details available from Overseas Products and Investment Opportunities Staff, Office of Export Development, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-76002.

3600 — GERMANY — Major sewing machine manufacturer is interested in utilizing excess production capacity. Seeks licenses, joint venture or other arrangements to make additional products. These could include **small electric household appliances, motor driven mechanical and dental equipment, laboratory instruments, photographic equipment, electrical, electronic components and other equipment.** Operates foundry, assembles small motors. Maintains extensive sales network throughout Germany and other Western European countries. Herr H. P. Dauer, Manager, Pfaff Haushaltsmaschinen GmbH, 75 Karlsruhe-Durlach, Gritznerstrasse. P-76023.

Licensing and investment proposals from foreign firms are listed in these columns. Specific product interests in each proposal are highlighted in bold type to facilitate identification and each proposal is preceded by the appropriate four-digit product number taken from the Standard Industrial Classification (SIC) Manual.

Background information on opportunities abroad and assistance on overseas investments are available from the Overseas Products and Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. "P" numbers should be used when responding to any of the specific proposals listed.

WTDR indicates that a World Traders Data Report containing financial and background information on the foreign firm is available for $15 from the Export Information Division, Room 1313, U.S. Department of Commerce, Washington, D.C. 20230, or from any Commerce District Office.

OPIC indicates that the country involved is eligible for investment insurance coverage and financing from the Overseas Private Investment Corporation. Information regarding applicable coverage may be obtained from OPIC, Washington, D.C. 20527.

3634 — GERMANY — Manufacturer and distributor of **electrical household appliances** is interested in expanding its product line. Seeks licenses to make newly developed appliances for Western European markets. Presently produces waffle irons, automatic egg boilers, warming plates and similar items. Also interested in cross licensing agreements. Employs 300. Mr. Wolfgang Seidel, Maerkisches Metallwerk GmbH, 575 Menden, Postfach 460. P-76018.

3634 — GERMANY — Manufacturer and distributor of electric household appliances is interested in expanding its line of electric radiators, space heaters, humidifiers and warming trays. Seeks licenses to **manufacture newly developed products in household appliance field** requiring good plastic and metal processing facilities. Employs 200. Herr Hillen, Gebr. Mayer KG, 5760 Neheim-Huesten, Postfach 4340. P-76005.

3662 — GERMANY — Seeks licenses to manufacture (1) **miniature ultra shortwave detection devices for security application; (2) microphones for broadcasting and medical applications;** and (3) **high fidelity stereo pick up systems.** Interested in newly developed products to market in Europe. Small manufacturer of electronic alarm systems, ultra shortwave security systems and special microphones. Has room for expansion in recently acquired facilities. Very good reputation. Egon Holthausen, Piezo-Elektronik, 30 Wellinghoven, 4054 Nettetal 1. P-76034.

3679—GERMANY—Seeks licenses to produce **electronic microwave components made of ferrite.** Also interested in obtaining related technology. Established in 1947, employs 300. Mr. Nagel, NEOSID-Pemetzrieder KG, Postfach 1344, 5884 Halver 1. P-76014.

3728—FRANCE—Manufacturer of equipment for fluid circulation and filtration used in aeronautics seeks licensing arrangement to manufacture **valves and pipe fittings, filters, couplings, hydraulic circuits, etc.** Established 1920, employs 250 and reports annual sales of $5 million. Mr. Lefevre, Manager, Le Bozec Et Gautier, 28, rue Carle Hebert, 92400-Courbevoie. Cable: Le Bozec, Courbevoie; Telephone: 333-20-95. P-76003.

3999 — UNITED KINGDOM — Seeks licensing or joint venture arrangement for production of items similar to its present line of products. Firm is subsidiary of Paperweights Inc. of Garden City Park, N.Y., and exports worldwide with exception of North, Central and South America. Company manufactures white marble paperweights incorporating company name, emblem, or customized message, pen holder, desk lighter, desk thermometer and customized key rings and fobs. David Kend, Managing Director, London Paperweights, 47a Hayes Mews, London W1, England. P-75844.

5999—FRANCE—Franchise arrangements with U.S. operator of retail **pet shop** desired. Also interested in importing pet equipment and supplies. Has 20 employees. Mr. Jean Masson, General Manager, Ets. SCAPEX, Z. I. du Petit-Clamart, 11 avenue Descartes, 92350 Le Plessis-Robinson. P-76031.

7394—IRAN—Seeks joint venture to **lease heavy equipment in Iran.** Particularly interested in collaborating with experienced American leasing company. Already has in inventory loaders, bulldozers, graders and electric shovels which are available for lease. Mr. Jamshid Jaffari, Industrial Development & Renovation Organization (IDRO), Pahlavi Avenue, Tehran. (Telex: 215031 IR KA IR.) P-76009. OPIC.

8911—GERMANY — Company wishes to represent U.S. firm, on commission basis, in **general engineering (including heavy and light engineering, chemical engineering and plant construction).** Ms. Doris Atkind, Trade Promotion, European-American Banking Corp., 10 Hanover Sq., New York, N.Y. 10005; telephone, 212-623-3600. P-75853.

8911—INDIA—Leading **consulting engineering** firm to sugar industry seeks cooperative arrangements with U.S. firm for projects in third countries. Latin American countries are of particular interest. Sugar mill engineering, sugar farming, large scale commercial crop development, irrigation, drainage and water conservation are activities to be undertaken. Contact is sought with U.S. firms currently involved in sugar industry as well as with those not active in the industry which would like to diversify. A principal of the company is willing to follow up expressions of interest with visit to U.S. Nandalal Bandyopadhyay, Executive Director, J. P. Mukherji & Associates Pvt. Ltd., 519 Arun Chambers, Tardeo Rd., Bombay 400 034. P-75856. OPIC.

Licensing In U.S.

For additional information on these opportunities to manufacture foreign firms' products in the United States under a licensing agreement or in partnership, write the Domestic Investment Services Staff, Bureau of International Commerce, Room 4020, U.S. Department of Commerce, Washington, D.C. 20230 (202-967-2248), referring to the appropriate file number.

AUSTRIA—U.S. licensees are sought to manufacture a newly designed, patented **water tank** for municipal and industrial use. The spiral, guide-wall design makes possible substantially lower construction costs and requires no sealing. File 2892

FRANCE—Poultry equipment manufacturer would like to license its lines of **incubators, feeders, batteries, cages, and auxiliary equipment for egg production.** A joint venture will also be considered; any substantial U.S. producer in the agro-industry supply field or a firm producing smaller incubators would make a suitable partner. File 2893

GERMANY—Large manufacturer of completely fitted, built-in **kitchens** wishes to have its line produced under license. File 2894

GERMANY—Large, custom-made **mixing, blending, and kneading machinery and systems** are offered for license. This equipment is especially suited for processing dry and pasty substances and is used in the food, chemical, pharmaceutical, and plastics processing industries. File 2895

GERMANY—Manufacturer of **close-fired heat carriers, inert supports, porous catalyst carriers, and close-fired grinding balls** seeks licensing or joint venture arrangements with U.S. manufacturers of related products. File 2896

GERMANY—Manufacturer of top-quality, high-priced children's, ladies, and men's knit **outerwear** is interested in licensing, cross-licensing, or joint venture agreement with a U.S. firm. File 2897

GERMANY—U.S. companies are sought for licensing or cross-licensing arrangements dealing with manufacture of **emergency warning, signal and safety lighting equipment and components of power supply units for electronic equipment.** File 2898

GERMANY—Manufacturer of **electroplating and phosphating barrels** wishes to set up a joint venture with a U.S. firm producing a similar line, ideally based on high-density polyethylene. File 2899

GERMANY—Line of patented **aluminum/plastic laminated bags** is offered for production under license or joint venture. The bags are double laminated, heat resistant, and suitable for liquid and dry foods, chemicals, and other products. The U.S. partner should have experience in the packaging industry, have good sales ability to the food and chemical industries, and be located in an area where these industries are concentrated. File 2900

GERMANY—Engineering company that designs, manufactures, and installs complete automatic **machinery for production of chipboard and plywood** seeks a U.S. licensee. File 2901

GERMANY—A leading German manufacturer of **grinding disks and wheels** for iron and steel mills, machinery producing industries, and wood, plastic, glass and stone working industries wishes to license its products. File 2902

GERMANY—German inventor offers **apparatus for driving sheet piles.** This new machine reportedly works at higher speed and with less hammer noise than conventional pile drivers. File 2903

GERMANY—Major manufacturer and exporter of **medium-sized gears, drives, and other mechanical power transmission equipment** is interested in licensing, cross-licensing, or joint venture arrangements with U.S. firms making similar products. File 2904

GERMANY—Line of U.S.-patented bacteriocidal and biodegradable **cooling and cutting fluids and wetting agents** is offered for production under license or eventual joint venture. Advantages of the products are said to include environmental compatability, lower petroleum oil content, higher use of waste products in manufacture, and quality technical results. File 2905

SWEDEN—Firm would like to license its new **industrial process which purifies food processing plant effluents and produces protein-rich yeasts.** The method, already used successfully for two years, involves release of two types of yeast into the waste water and starch. File 2906

UNITED KINGDOM—Producer of all primary quarry products, ready-mixed concrete and mortar, road surfacing materials, and industrial minerals wishes to license certain new **specialized plants.** These include a concrete production plant using a continuous weighing/mixing system and a waste concrete mechanized washout plant, or concrete effluent separation system. File 2907

Important Notice

Most member countries of the League of Arab States employ a secondary boycott against foreign firms which undertake certain specific types of business relationships with the State of Israel. The Commerce Department will not disseminate or make available for inspection any tenders or trade opportunity documents which contain conditions intended to support such boycotts, or which are based on documents known to contain such provisions. Trade or investment opportunities published herein are not presently known to be subject to such conditions. However, it is possible that U.S. firms responding to opportunities from Arab countries may be asked at some stage of a transaction to participate in an Arab boycott-related restrictive trade practice as defined in the Department's Export Administration Regulations (15 CFR, Part 369 et. seq.).

Firms are reminded that pursuant to Section 3(5) of the Export Administration Act of 1969, as amended, it is the policy of the United States (a) to oppose restrictive trade practices or boycotts fostered or imposed by foreign countries against other countries friendly to the United States, and (b) to encourage and request U.S. concerns engaged in the export of articles, materials, supplies, or information to refuse to take any action, including the furnishing of information or the signing of agreements, which has the effect of furthering or supporting such restrictive trade practices or boycotts. Accordingly, U.S. concerns receiving such requests to participate in a restrictive trade practice or boycott are encouraged and requested to refuse to comply with them.

Firms are further reminded that U.S. concerns receiving requests to participate in a restrictive trade practice or boycott must report such receipt to the Department of Commerce in accordance with Section 369.4 of the above-cited regulations.

Study Tour To Arab Countries Scheduled For U.S. Executives

The American University, Washington, D.C., and the American Bulletin of International Technology, Los Angeles, are sponsoring a 21-day visit to the Middle East during May. Objectives of the study tour to Algeria, Egypt, Iran, Kuwait and Saudi Arabia are to provide participants with a better understanding of the Arab world in order to explore avenues of communication between businessmen in the United States and appropriate parties in those countries. The host governments have assured full cooperation, and part of the tour will be devoted to organized meetings with local businessmen, academics and government officials. There will also be visits to important economic organizations and facilities as well as historic cultural sites, including attractions not available to the general public.

The study tour will be directed by Dr. Gary E. Lloyd, Director of the Business Council for International Understanding, the American University, and Dr. Ashok Kapoor, Professor at the Graduate School of Business Administration, New York University. For details write to the American Bulletin of International Technology Transfer, 5455 Wilshire Blvd., Suite 1009, Los Angeles, Calif. 90036. Telephone: 213-931-7481.

U.S. Firms Seeking Saudi Ties Can Be Listed In Publication

The Saudi Industrial Studies and Development Center publishes a circular entitled *Nashra Assanaiyya* or *Industrial News.* The publication, in Arabic, is widely disseminated in Saudi business circles and includes brief articles on current activities of the center, economic statistics and descriptions of foreign firms seeking agents or licensees or joint venture partners. Interested U.S. firms should write to the center submitting information on their company and their particular interest in doing business in Saudi Arabia. A brief summary will be published in the *Industrial News,* while any additional details are kept on file, available to interested Saudi firms. The Saudi companies will be advised to contact the U.S. firms directly for further information. U.S. firms should write: Director of Information, Saudi Industrial Studies and Development Center, Riyadh, Saudi Arabia. Correspondence in English is acceptable. Investments in Saudi Arabia may qualify for OPIC insurance programs. P-76026.

Drugstore Items In Surinam

A medium-size drugstore in Surinam with annual turnover of approximately $500,000 wants to establish permanent connec-

tions with a U.S. wholesale dealer of drugstore items. The company wishes to import greeting cards, umbrellas, cigarette lighters, sunglasses and other sundries. Interested U.S. firms should contact Mr. Stanley J. Brahma-Tewari, P.O. Box 320, Paramaribo, Surinam, S.A., to explore this opportunity further. P-76029.

Israel Seeks U.S. Investors For A Variety Of Projects

The Government of Israel has compiled data about the production of items for which it seeks collaboration between the United States and Israeli business sectors. Products include pumps, molds and dies, industrial, mechanical and electromechanical instrumentation, industrial valves, magnesium castings, electronic control systems, precise electronic components, electrical motors, and medical electronic equipment. Chemical products of interest include acrylonitril, caprolactum, phenol, styrene, phosphoric salts, soda ash, zinc, fertilizer, dyestuffs, bitumens, ammonia, silicones, and pesticides and pharmaceutical intermediates. Israel also seeks collaboration to establish a high standard, internationally recognized pharmacological institute. More information may be obtained from the Overseas Products and Investment Opportunities Staff, Office of Export Development, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230; the Embassy of Israel, Economic Minister, 1621 22nd Street, NW., Washington, D.C. 20008; or the Government of Israel Investment Authority, 641 Lexington Ave., New York, N.Y. 10022.

Interested firms may also contact the Consulate General of Israel in the following cities: 805 Peachtree St., NE., Suite 656, Atlanta, Ga. 30308, Telephone: 404-875-7851; Park Square Bldg., 31 St. James Ave., Suite 450, Boston, Mass. 02116, Telephone: 617-266-3800; One Greenway Plaza East, Suite 722, Houston, Tex. 77046, Telephone: 713-627-3780; 6380 Wilshire Blvd., S ite 1700, Los Angeles, Calif. 94104, Telephone: 213-658-7945; Pacific Bldg., 105 Montgomery St., San Francisco, Calif. 94104, Telephone: 415-981-2786; Lewis Tower Bldg., Suite 707, 255 S. 15th St., Philadelphia, Pa. 19102, Telephone 215-546-5556; and 111 E. Wacker Dr., Suite 1308, Chicago, Ill. 60601, Telephone: 312-644-4140. Israeli Investment Authority representatives are located in the offices in Atlanta, Los Angeles and Chicago. U.S. investments in Israel may qualify for OPIC insurance. P-76011.

W. Australia Reports Discuss Investment View, List Projects

The Department of Industrial Development in Western Australia has issued two reports on investment in the state, which occupies nearly one-third of the country. The report on investment climate gives background on the economy and describes sectors with the most promise for future development. Current and proposed public and private projects are listed in the second report. The mining sector dominates the field of larger projects in the private domain. For more information contact the Department of Industrial Development, 32 St. George's Terrace, Perth, Western Australia 6000. P-76012.

Foreign Trade Inquiries

These trade opportunities are based on reports received from the U.S. Foreign Service—Department of State by the Trade Opportunities Division, Room 2323, U.S. Department of Commerce, Washington, D.C. 20230. The commodities in which foreign firms have interest are indicated by the five-digit numbers and commodity classifications which are from the Standard Industrial Classification (SIC) Manual and the Numerical List of Manufactured Products, 1972 Census of Manufactures.

U.S. firms should be aware that the listing in Commerce America *of opportunities to trade in specific commodities and technical data does not necessarily imply approval of their export by the Department of Commerce pursuant to the Export Administration Act of 1969. Applicable export licensing regulations must be followed.*

Every effort is made to include only traders with good reputations. However, the Department cannot be responsible for any trade relations.

WTDR indicates that a World Traders Data Report on this specific firm is available at $15 from the Export Information Division, Room 1313, U.S. Department of Commerce, Washington, D.C. 20230. A WTDR is a trade profile which contains commercial information including financial references, on an individual foreign firm. Orders must include complete name and address of the subject firm and be accompanied by payment. Further information concerning WTDRs and request forms are available at each Commerce District Office.

The mark (●) indicates that this trade opportunity is a request for bids by a foreign government agency.

Direct Sales

Bituminous coal, lignite mining

1211XXX — SPAIN — Coking coal, with following characteristics; volatile matter: 24 percent, ashes: 5.5 percent, humidity: 5 percent, sizes: 0-30 mm., coke button: 7-9. Subject firm is fairly important within its field. It operates throughout the country and imports from various sources, including United States. Would like to receive quotations c.i.f. Spanish port. Call or cable—Mr. Jose L. Laso Herrero, Dir., Petrolmina, S.A., Espanoleto, 24, Madrid (4). Telex: 22935 Tecde; tel: 91/419-6665.

Building construction

● **15100 — ETHIOPIA** — International Livestock Center for Africa (ILCA), P.O. Box 5689, Addis Ababa, wishes to establish list of prequalified building contractors for construction of new headquarters building in Addis Ababa. Center will include group of buildings comprising laboratories, offices, conference facilities, and libraries (total of 6,200 sq. meters). There will also be several farm buildings (1,900 sq. meters) and living accommodations for resident staff and research students, and sports center (3,800 sq. meters) together with associated site works. Building contractors interested in being included in short tender list should complete answers to following questions and submit them to Mr. J. R. Pagot, ILCA Director, before Feb. 4: 1) experience in similar construction work, 2) experience in work in Ethiopia or similar countries, 3) details and value of recently completed projects, 4) information on financial position including bank references, 5) details of capability and work capacity in terms of personnel, plant, equipment, etc., available for use in Ethiopia for this contract, and 6) countries where registered as building contractor and the classification(s). Replies should be sent by registered mail in double envelope. Construction information will be sent to selected firms immediately after selection on Feb. 6. Selected firms will be required to submit proposals no later than April 15. Project financed by international donors through Consultative Group for International Agricultural Research in Washington, D.C.

Construction

● **16100—LIYBAN ARAB REPUBLIC**— Tender for construction of 625-km. road between Kufra and Jalou in southeast Libya (Tender No. 42/75). Tender documents and specifications obtainable upon payment of LD 300 (US$1,040) from General Administration of Roads, Assydi St., Tripoli. Firms wishing to participate in this tender should first register in Contractors Register at Ministry of Housing in Tripoli. Jalou is located 450 kms. south of Benghazi. Tenderers must enclose with their offers their qualifications, experience, and financial status. Bids, accompanied by guarantee of LD 200,000 (US$680,000), must be received by Feb. 23, at Central Tender Board, Suliman El-Barouni St., Tripoli. Financed by Libyan Government and the money is allocated in General Roads Administration Budget for 1976/80 Development Plan.

Heavy construction

● **16200—SUDAN** — Tenders are being called for gate plant associated with installation of fourth generating set at Roseires Power Station. Applications for complete tender documents and specifications should be sent directly to civil engineers, Sir Alexander Gibb & Partners, Standard House, London St., Reading RG1 4 PS, England, with copy to MM. Coyne et Bellier, Bureau d'Ingenieurs Conseils, 5 Rue D'Heliopolis 75017, Paris. Applications should be accompanied by 30 pounds sterling, non-refundable. Copies of official announcement available from Construction & Building Materials Program, Room 2124, U.S. Dept. of Com-

merce, Washington, D.C. 20230, 202-967-3601, and U.S. Dept. of Commerce District Office, Federal Bldg., 450 Golden Gate Ave., P.O. Box 36013, San Francisco, Calif. 94102, 415-556-5868.

● **16200 — VENEZUELA** — Ministry of Public Works is beginning prequalification procedures for domestic and foreign firms interested in construction of two highway tunnels for new freeway between San Cristobal and La Fria. Acceptance of prequalification documents will take place on Feb. 16 in Salon de Licitaciones, Division de Licitaciones, Ministerio de Obras Publicas, Local 5, Edificio Sur, Centro Simon Bolivar, Caracas. Some details on the two projects and listing of those data which must accompany official Venezuelan forms available from Construction & Building Materials Program, Room 2124, U.S. Dept. of Commerce, Washington, D.C. 20230, 202-967-3602, and U.S. Dept. of Commerce District Office, Federal Bldg., 450 Golden Gate Ave., P.O. Box 36013, San Francisco, Calif. 94102, 415-556-5868.

● **16200 — YUGOSLAVIA** — Tender for supply and erection of spherical container for vinylchloride of 7,000 cubic meters volume (Tender No. K-1526). Other specifications: top pressure 6.5 KP per sq. cm.; test pressure at top 9.8 KP per sq. cm.; and projected temperature 40 degrees C. All instruments included. Also offer know-how and engineering documentation. Prices should be quoted c.i.f., Yugoslav border. Bids should be submitted in four copies no later than Feb. 27. Payment for equipment will be cash and/or supplier credit. Bidders should quote credit terms available. Bid-letting auhority is Jugovinil Uvoz, 58212 Kastel, Sucurac, Yugoslavia.

General commercial printing

27542XX—TAIWAN—Carbon tissue for gravure printing. Reply to—LCK Union Corp., 2nd Floor, 103 Kun-Ming St., Taipei, Taiwan 108. Cable Lckun; tel 3610585; telex 21755.

Engines, turbines

● **35100—YUGOSLAVIA** — Energoinvest has issued first four tenders for supply of equipment for hydroelectric "Buk Bijela" plant. These are: Tender No. 1, hydromechanical equipment for power plant and catchment basin; Tender No. 2, pressure pipes; Tender No. 3, four Francis turbines; and Tender No. 4, power transformers—two 250 MVA or four 125 MVA. Bid deadline March 8. Tender copies available from Energoinvest—UVOZ, Jna 20, 71000 Sarajevo, for $200 per each tender requested. In addition, Energoinvest will announce tenders during 1976 for generating equipment; cranes; equipment for 380/220 KV distribution plant; control, safety and signalization equipment; and auxiliary equipment.

Metalworking machinery

3541XX, 3542XX—VENEZUELA — Businessman with government authorization and financing to install screw manufacturing plant wishes to receive quotations, catalogs and specifications of complete line of screw manufacturing equipment, including tempering tanks and galvanizing equipment. Machine tools should be of low speed production. Reply to Mr. Gaetano Tannoya, Residencias Arichuna, Apto. B-2, Avenida Principal de Caure-mare, Caracas.

Special industrial machinery

3559589—KENYA—Machinery to process up to 5 tons/day agric. waste (coffee husks, saw dust, etc.) into charcoal & not costing more than $10,000/unit. Interested in agency agreement & possible later mfg. of product under licensee. Has wide experience in agric. machinery & processing & is increasingly developing utilization of natural resources of East Africa with small machinery. Interested suppliers should send offers with detailed literature, quotations incl. f.o.b. & c.i.f. Mombasa prices, delivery terms & validity ASAP. Firm is sending rep to U.S. in mid-January. Reply ASAP to—N. Chance, Investment Consultant, Edm. Schulter & Co., (Kenya) Ltd., P.O. Box 43387, Nairobi. Cable Schulafrica; tel 338500/1. AC & Israel Commodity Corp., Inc., 110 Wall St., New York, N.Y.

General industrial machinery

● **35640—INDIA**—Supply of engine room and cargo hold ventilating equipment with fans, motors, and control gear equipment. Specs in tender. Bid deadline Feb. 23. Tender documents available for 25 rupees from Mr. S. Satyanarayana, Controller of Purchase, Hindustan Shipyard Ltd., Gandigram, Visakhapatnam, 530 005, India. Indian agents of American suppliers should include full addresses of their principals and documents confirming authorized agency.

Important Notice

Most member countries of the League of Arab States employ a secondary boycott against foreign firms which undertake certain specific types of business relationships with the State of Israel. The Commerce Department will not disseminate or make available for inspection any tenders or trade opportunity documents which contain conditions intended to support such boycotts, or which are based on documents known to contain such provisions. Trade or investment opportunities published herein are not presently known to be subject to such conditions. However, it is possible that U.S. firms responding to opportunities from Arab countries may be asked at some stage of a transaction to participate in an Arab boycott-related restrictive trade practice as defined in the Department's Export Administration Regulations (15 CFR, Part 369 et. seq.).

Firms are reminded that pursuant to Section 3(5) of the Export Administration Act of 1969, as amended, it is the policy of the United States (a) to oppose restrictive trade practices or boycotts fostered or imposed by foreign countries against other countries friendly to the United States, and (b) to encourage and request U.S. concerns engaged in the export of articles, materials, supplies, or information to refuse to take any action, including the furnishing of information or the signing of agreements, which has the effect of furthering or supporting such restrictive trade practices or boycotts. Accordingly, U.S. concerns receiving such requests to participate in a restrictive trade practice or boycott are encouraged and requested to refuse to comply with them.

Firms are further reminded that U.S. concerns receiving requests to participate in a restrictive trade practice or boycott must report such receipt to the Department of Commerce in accordance with Section 369.4 of the above-cited regulations.

Communications equipment

● **36600 — JAMAICA** — Jamaica Broadcasting Corp., 5 South Oden Ave., Kingston 10, is seeking bids for supply of three point-to-point radio transmitters, six VHF television transmitters, mobile TV facility and video-tape recording equipment.

● **36610—ALGERIA**—Monsieur Le Directeur, De L'Exploitation Des Telecommunications, Piece 911, Ministere Des Postes Et Telecommunications, 4, Blvd. Salah Bouakouir, Algiers. Cable: Gentel Alger, Telex: 52020 has issued two tenders: 1) 100 line concentrators and 2) various telephone measuring instruments. Offers to be in five copies in French, and remain valid 90 days past bid deadline. Correspondence in French required; all specifications to be in metric. Bid deadlines Feb. 15. Copy of specifications available from above address or on short-term loan basis to firms located in U.S. from Science & Electronic Div., BDC-466, Room 1001, U.S. Department of Commerce, Washington, D.C. 20230, 202-967-5569.

● **36610, 33570—GUATEMALA**—Guatemalan Telecommunications Co. announces a call for bids (Tender No. 11-75) for cables and accessories to be utilized in lengthening connection cables between certain telephone exchange sites. All documents referring to legal and commercial terms and technical specifications available at Office of Design and Planning Division, 5th floor, Main Headquarters Bldg., 7A., Ave. 12-39, Zona 1, Guatemala City, for U.S.$50. Any firm wishing to get these specifications should contact a local firm or the U.S. Embassy since Guatemala will not mail specifications to U.S.

● **36620—BANGLADESH**—Project Manager, BXCAT A.D.B. Aided Project, Bangladesh Railway, Rait R LCN LNOH Chittagong, Bangladesh has issued tender no. SO/SIG/ADB/1 for supply and installation of relay interlocking equipment for three stations of Bangladesh railway. Purchase will be financed by Asian Development Bank. Bid deadline Feb. 17. Copy of specifications available from above address for TK 500.00 (about $34.09) not refundable, or on short-term loan basis to firms located in U.S. from Science & Electronics Div., BDC-466, Room 1001, U.S. Department of Commerce, Washington, D.C. 20230, 202-967-5569.

● **36620—INDIA**—Director General, Posts & Telegraphs (MMD Section), Parliament St., New Delhi 110001, has issued tender no. 12-127/75-MMD for ground equipment for space satellite communications systems. Equipment is required for Telecommunications Research Center in New Delhi. Bid deadline March 22. Copy of specifications available for $2.74 per set from Assistant Director General (Imports), Room No. 517-A at above address.

● **36620—INDIA**—Director General, Posts & Telegraphs (MMD Section), Parliament St., New Delhi 110001, has issued tender no. 12-128/75-MMD for supply of microwave equipment, materials, accessories and installation materials. Bid deadline April 1. Copy of specifications available from above address for $2.74, or on short-term loan basis to firms located in U.S. from Science & Electronics Div., BDC-466, Room 1001, U.S. Department of Commerce, Washington, D.C. 20230, 202-967-5569.

Instruments for measurement, analysis and control

• **38110 — CAMEROON** — Commission Nationale Des Marches, Presidence De La Republique, Yaounde, has issued tender no. 6/54/Mineduc for supply of educational and school furniture such as laboratory equipment for physics experiments, audio visual aids, and photographic materials. Bid deadline Feb. 10. Copy of specifications available on short-term loan basis to firms located in U.S. from Science & Electronics Div., BDC-466, Room 1001, U.S. Department of Commerce, Washington, D.C. 20230, 202-967-5569.

• **38200—INDIA**—Hindustan Shipyard Ltd., Gandhigram, Visakhaptnam 530 005, India, has issued tender no. COP/Q/PT.437/23571/VC. 171010 To 015 for supply of flow meters. Bid deadline Feb. 16. Copy of specifications available on short-term loan basis to firms located in U.S. from Science & Electronics Div., BDC-466, Room 1001, U.S. Dept. of Commerce, Washington, D.C. 20230, 202/967-5569.

Surgical, medical, dental instruments

• **38400—SRI LANKA**—Department of Health, P.O. Box 584, Colombo, has issued tender for supply of hospital equipment such as rubber rebreathing bags, post mortem gloves, electric plaster cutters, stethoscopes, thermometers, and sphygmomanometers. Bid deadline Feb. 27. Copy of specifications available on short-term loan basis to firms located in U.S. from Science & Electronics Div., BDC-466, Room 1001, U.S. Department of Commerce, Washington, D.C. 20230, 202-967-5569.

• **38410—ECUADOR**—Dr. Marcos Suecum G., Director, Del Departamento Juridico, Ministerio De Salud Publica, Juan Larrea 444, Quito, has issued tender no. 08-75-MSP for supply of surgical and medical instruments, appliances, and furniture. Bid deadline Feb. 16. Other information includes bid documents for nonrefundable U.S. $80 from above address. Bid documents available on short-term loan basis to firms located in U.S. from Science & Electronics Div., BDC-466, Room 1001, U.S. Department of Commerce, Wash., D.C. 20230, 202-967-5569.

Manufacturing industries

3999998—GERMANY—Various types of measuring tapes. Berlin agent seeks large amount of above for customer in Indonesia. Reply to—Dr. Haertel Berolina Treuhand, Paul Lincke Ufer 44, 1000 Berlin 36. Tel. (05524) 33 47.

Future Construction Abroad

CZECHOSLOVAKIA—A British firm is interested in locating a potential U.S. supplier of a **complete die casting plant** for use in Czechoslovakia. Specs. as follows: complete plant for melting and continuous vertical casting of rods and flat bars from brass alloys; rod sizes: dia. 150mm, 250mm, 312mm; alloy: 90% of MS 59PB, 10% of MS 63; flat bar sizes: 760 mm x 180 mm; alloy 75/80% of MS63, approx. 25% of MC 59PB. Plant will include induction furnaces, holding induction furnaces, casting plant for flat bars, casting plant for rods, draw-off equipment for flat bars, draw-off equipment for rods, index equipment for both types of casting, distributed between the two types of casting. The charge material will have the following specs: CU, ZN 31%; MS (scrap) 55%; Splints 14%. Also required are: consumption of electricity, cooling water, compressed air, and all necessary information about servicing of plant. Firms interested contact Mr. R. H. C. Boys, Inexco Argosy Ltd., 29 St. James St., London SW1, England.

AUSTRIA—The Austrian Oil Administration (OeMV), German Ruhrgas and Gaz de France concluded a basic contract concerning construction of a **natural gas pipeline** through Austria which will provide another connection between COMECON and West European natural gas systems. Total length about 300 kilometers. According to present plans, the projected "West - Austria - Gas - Pipeline" (WAG) will run from the village of Baumgarten, the Austrian point of entry for Soviet gas, to the West German border near Passau. Total construction costs at current prices estimated at US$121 million. Pipeline will be financed, constructed and operated by Austria's national petroleum company OeMV. Natural gas designed for consumption in France will be pumped through under a transport contract to be concluded between Gaz de France and OeMV. U.S. firms interested in supplying pipeline equipment such as natural gas compressors, pipeline valves, control apparatus and other pertinent materials should contact: OeMV, Oesterreichische Mineraloelverwaltung A.G., Projektsabeteilung, Reichsratstrasse 1, A-1010 Vienna.

Representations

Foreign private firms are interested in agency agreements and/or distributorships for these products.

Metalworking machinery

35412XX, 35414XX, 35415XX, 35416XX, 35421XX, 35422XX, 36231XX — VENEZUELA—Large corporation establishing new machine tool division wishes obtain agency agreements and/or distributorships for machine tools, incl. lathes, milling machines, presses, welding equip., drilling machines, bending & forming, grinding & polishing, and punching & shearing machines. Company has branches and sales offices throughout the country and has excellent financial and commercial references. Contact Mr. Claudio Mayer, Mgr., Machine Tool Division, Materiales Mandoza, C.A., Apartado 332, Caracas. Cables: Miramen, Caracas.

Household appliances

3633131—GREECE — Washing machines: fully automatic and semiautomatic. Operates as agent, importer & distr. of electric semiautomatic washing machines. Represents European firms. Interested in excl. rep. of above. Wtdr on request. Reply to: T. Monokantilos, Mgr., Theofilos N. Monokantilos, Representation-Importations, Kalymnos. Tel 0243-416.

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Denver, 80202, Room 161, New Custom House, 19th and Stout Sts. (303) 837-3246.

Des Moines, Iowa, 50309, 609 Federal Bldg., 210 Walnut St. (515) 284-4222.

Detroit, 48226, 445 Federal Bldg. (313) 226-3650.

Greensboro, N.C. 37402, 203 Federal Bldg., W. Market St., P.O. Box 1950. (919) 275-9111, Ext. 345.

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Memphis, 38103, Room 710, 147 Jefferson Ave., (901) 534-3213.

Miami, 33130, Rm. 821, City National Bank Bldg., 25 W. Flagler St. (305) 350-5267.

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New York, 10007, 41st Floor, Federal Office Bldg., 26 Federal Plaza, Foley Sq. (212) 264-0634.

Newark, N.J., 07102, Gateway Bldg. (4th floor) (201) 645-6214.

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Phoenix, Ariz., 85004, 508 Greater Arizona Savings Bldg., 112 N. Central Ave. (602) 261-3285.

Pittsburgh, 15222, 431 Federal Bldg., 1000 Liberty Ave. (412) 644-2850.

Portland, Ore., 97205, 921 S.W. Washington St., Suite 521, Pittock Block. (503) 221-3001.

Reno, Nev., 89502, 2028 Federal Bldg. 300 Booth St. (702) 784-5203.

Richmond, Va., 23240, 8010 Federal Bldg., 400 N. 8th St. (804) 782-2246.

St. Louis, 63105, Chromalloy Bldg., 120 S. Central Ave. (314) 425-3302.

Salt Lake City, 84138, 1203 Federal Bldg., 125 S. State St. (801) 524-5116.

San Francisco, 94102, Federal Bldg., Box 36013, 450 Golden Gate Ave., (415) 556-5860.

San Juan, P.R., 00902, Room 100, Post Office Bldg. (809) 723-4640.

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